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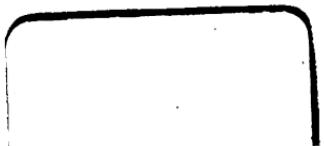
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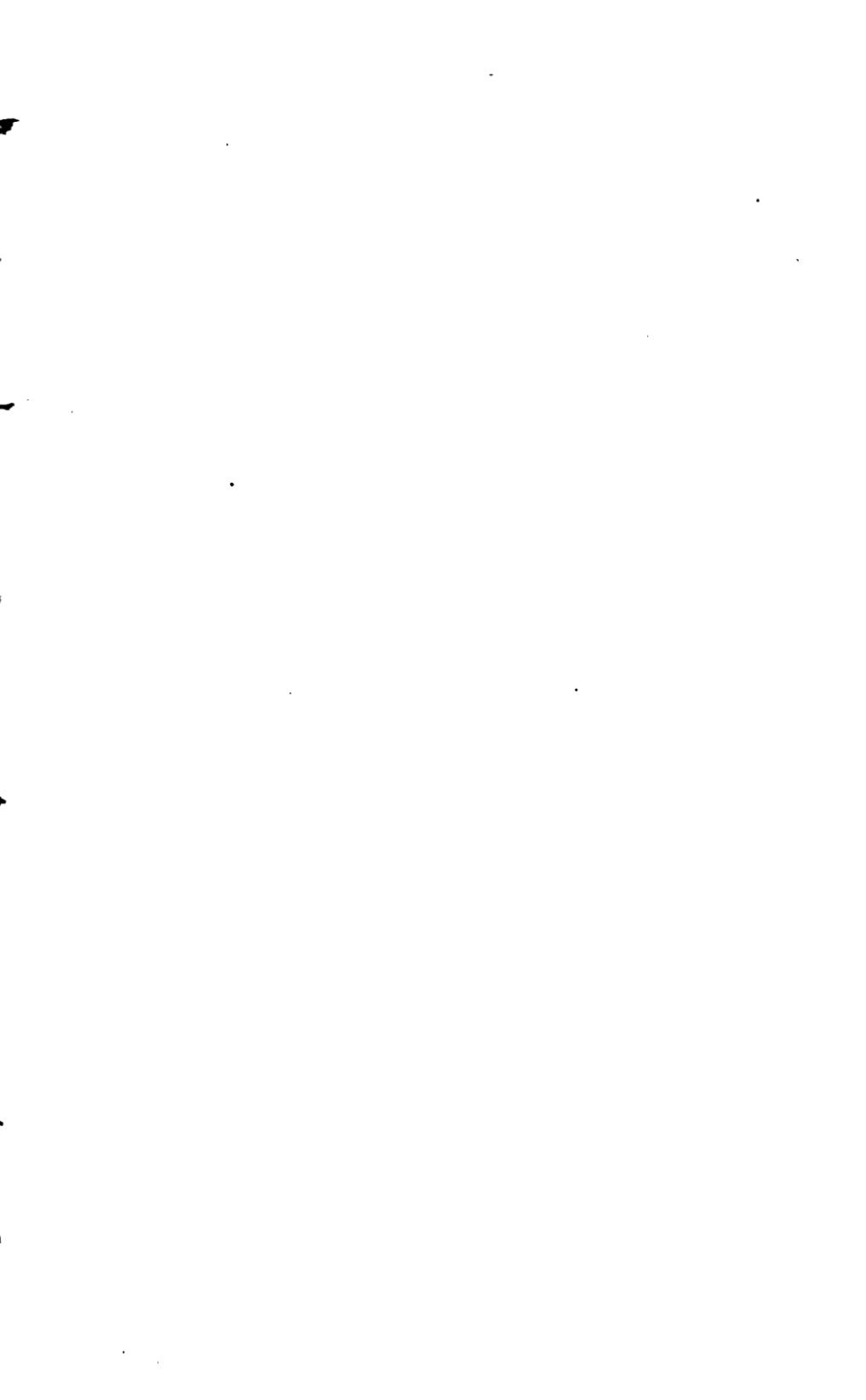
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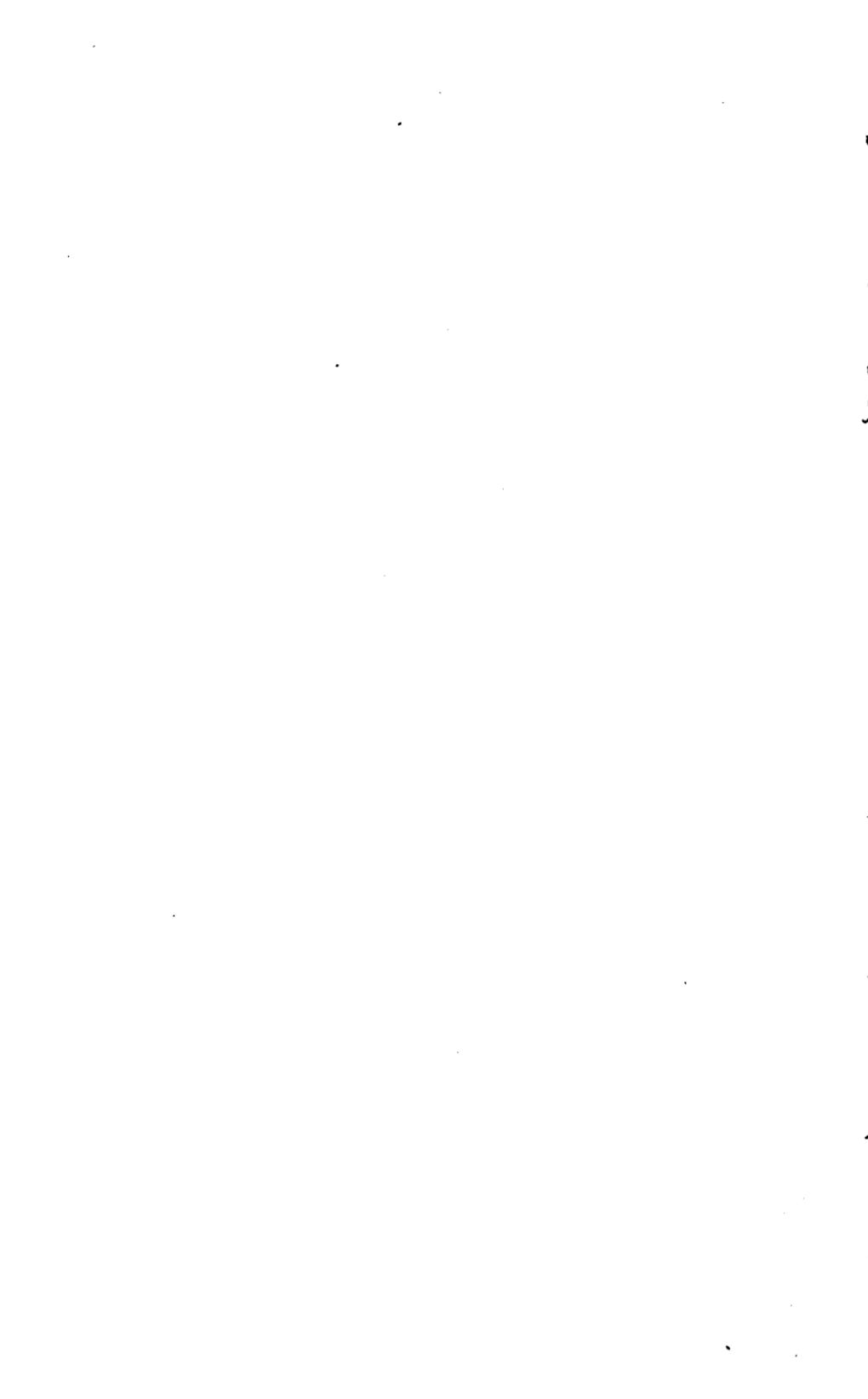
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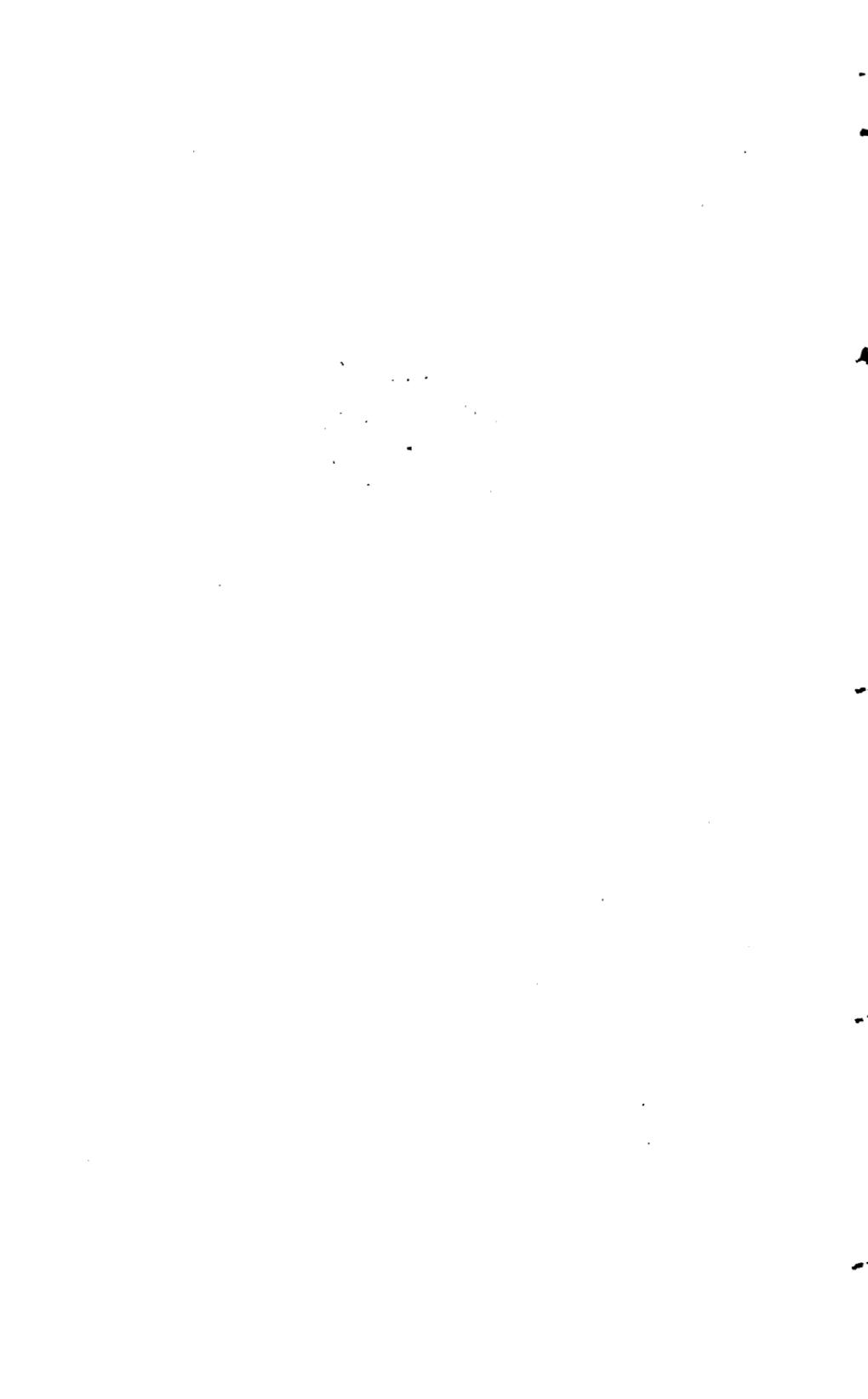


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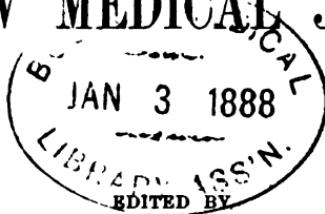
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**THE**

**GLASGOW MEDICAL JOURNAL.**



THE  
**GLASGOW MEDICAL JOURNAL.**



**JOSEPH COATS, M.D., and  
ALEXANDER NAPIER, M.D.,**

FOR THE

**Glasgow and West of Scotland Medical Association.**

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THE  
GLASGOW MEDICAL JOURNAL.

No. I. JANUARY, 1887.

ORIGINAL ARTICLES.

TWO LECTURES ON SYPHILITIC DISEASES OF  
THE UPPER AIR PASSAGES; THEIR PATHOLOGY,  
SYMPTOMS, AND TREATMENT. WITH ILLUSTRATIVE  
CASES.

(*Selected from a Course of Lectures delivered during the Summer Session, 1886, at the Glasgow Royal Infirmary.*)

By DAVID NEWMAN, M.D.,  
Surgeon in Charge of the Department for Diseases of the Throat and  
Nose, Royal Infirmary; Surgeon to the Dispensary,  
Western Infirmary, Glasgow.

(*Continued from page 448 last Volume.*)

LECTURE II.

GENTLEMEN.—In the last lecture I brought under your notice a number of cases illustrative of the primary and secondary lesions of syphilis, and I also described to you some of the tertiary phenomena. The conditions to which I desire to direct your attention to-day are the most characteristic syphilitic affections of the nose during the tertiary period. These may be met with at a date from five to twenty-five years after the primary inoculation, and usually manifest themselves by an offensive discharge from the nostrils, and a characteristically disgusting *fœtor* of the breath. The disease usually begins in a localised infiltration of the mucous membrane, or in a gummatous periostitis, both of which rapidly go on to destruction of the surrounding parts, and eventually to necrosis of bone.

2 *Syphilitic Diseases of the Upper Air Passages :*

The ulcers are deep, and covered by a characteristic slough; the edges are everted and irregular; and while the ulcer is healing at one part, it shows a tendency to spread at another. No part of the nasal cavity is exempt from attack, and in strumous individuals the disease is specially virulent. I had lately under my care a patient who might be placed in this category. He was a member of a strumous family, and contracted syphilis. The soft and hard palates were completely destroyed, the greater portion of the superior maxilla on one side, the internal and external pterygoid plates of the sphenoid on both sides; the perpendicular plate of the ethmoid, the left nasal bone, and the vertical plate of the left palate bone, with the exception of the ethmoidal surface, exfoliated in succession; and ultimately the patient died of haemorrhage from a large artery, probably the internal carotid. Besides the risk of death from haemorrhage in such cases, danger to life may arise from extension of the disease to the interior of the skull, or portions of bone may become loosened from their attachments, and subsequently impacted either in the trachea or oesophagus.

In some instances severe head symptoms may arise from absorption of the decomposing discharges, either as a consequence of infective thrombosis, or as a result of extension of the inflammation to the membranes of the brain through the cribriform plate of the ethmoid bone.

Here you have a boy, who is suffering from hereditary syphilis. He came to the out-door department a few weeks ago, when a considerable swelling was observed on both sides of the septum, probably due to disease of the perichondrium. The swelling was soft and elastic, extended equally on both sides of the septum, and in this respect differed from other out-growths from the cartilage. Obstruction to nasal respiration was complete when the patient was first seen; but now, under constitutional treatment, the growths have subsided to some extent. In acquired forms of the disease perforation of the septum very frequently takes place, and the vomer may become involved, as you saw in the patient J. G. You will remember in this case the bridge of the nose had fallen in, and gave it the appearance of having been crushed; whereas, in the case of one man whom I showed you at last lecture, the cartilaginous septum alone was destroyed, giving the organ a flattened appearance, very different from the other.

Nodes upon the palate are very liable to be mistaken for abscesses, but differ from them in being less rapid in formation. They are usually away from the alveolar process, are

less painful than abscesses, and are not in communication with the teeth.

The symptoms of the diseases now under consideration are—interference with the sense of smell, deformity of the nose, a constant discharge from one or both nostrils, and more or less tenderness and discomfort in the organ. The first and last symptoms are comparatively unimportant, while the second and third are very characteristic. The discharge is often abundant, and the foetor is frequently so offensive that it contaminates the air of the apartment occupied by the patient, and prevents him from mixing in society, or even following his employment; and, moreover, the stench is sometimes so persistent that it cannot easily be removed, even by the free use of antiseptics. If this be so, the strong presumption is that the bone is involved; whereas, if the douche easily removes the stench, and especially if it remains away for a considerable time after the douche has been stopped, we have strong evidence that no necrosed or carious bone is present. The discharge is usually abundant, and may be muco-purulent or tinged with blood, but, as a rule, does not contain much pus. It is often black, and, if not frequently removed by a douche, it may form hard, offensively smelling crusts, or small fragments of bone may be found mixed with it. Examination reveals either ulceration, gummata, or, combined with these, necrosis of bone.

The bone of the nose may become involved in the early months of syphilis, but those most liable to be attacked at this period are the cranium, the sternum, the clavicle, and the tibia. Although bone may, in a few cases, be thus early affected by hyperæmia of the periosteum, and the formation of fibrous tissue which has a tendency to spontaneous involution, gummata do not occur till the tertiary period.

The late osseous affections may be conveniently divided into three kinds:—1. Gummatoform (osteomyelitis); 2. Inflammatory form (osteoperiostitis); 3. Dry caries, or inflammatory atrophy of bone.

I cannot take up your time by discussing in detail the pathological changes in these different aspects of the disease, but I may mention to you certain features which distinguish syphilitic necrosis. In this disease, as pointed out by Virchow, the surface of the sequestrum is pierced by large holes, which unite internally, and lead to the suspicion that death of the bone has been due to the deposition of gummatoform material. In specific disease there is usually more than one bone affected—those of the nose, the hard palate, and the alveolar

process of upper jaw being the most frequently involved; consequently the disease gives rise to deformity of the features and alterations in the voice.

The ulceration and gummata present the same characters in the nose as in the other parts of the air passages. It is, therefore, not necessary for me to repeat what I have already said. The only point which I desire to impress upon you is the importance of making a systematic examination for diseased bone. When caries or necrosis of bone exists, it may evade detection by being covered with crusts, or by reason of its situation. If not discovered by other means, a probe should be carefully used, special care being taken when the diseased bone is situated high up, for fear of injuring important structures. As regards deformities, the most characteristic of tertiary syphilis are perforation of the septum and flattening of the nose, either from erosion of the cartilage or destruction of the vomer or nasal bones. In the former instance, the flattening is at the tip of the nose, whereas in the latter the bridge and upper part of the nose are flattened.

The diagnosis of tertiary syphilitic disease is ordinarily easy. The principal facts to guide one in the diagnosis are the clinical history of the case, including the occurrence of skin eruptions, the presence of enlarged glands, periostial nodes, cicatrices or ulcers on the tongue, larynx, or pharynx, or evidences of the presence of gummata in other parts—for example, in the brain, liver, &c. The appearance of the ulceration in the nose and the offensive odour and discharge are characteristic, and if to these be added the detection of necrosed bone or perforation of the septum, there is little room left for doubt. The diseases in this region most apt to be confused with syphilis are cancer, tuberculosis, ulcers of the exanthemata, scrofula, and lupus. Scrofulous ulcers are, as a rule, small in size, but may penetrate deeply, and ultimately lead to the separation of sequestra. The history of such cases is, however, sufficiently pronounced to prevent a mistake in diagnosis. In lupus exedens, the disease commences as a minute tubercle, with a compact, granular appearance; the progress towards ulceration and destruction of the surrounding parts is slow; and while the ulceration is spreading at one part, a disposition to heal may appear at others. Lupus is a disease of early life, is not contagious, and while present in the nose it may attack the cutaneous surface. The lesion may extend from within, and as it progresses it may lead to serious deformity by destroying the alæ, the nasal bones, or by perforating the septum; but while,

as you will observe, lupus has many of the manifestations commonly seen in syphilis, there are sufficient points of distinction in most cases to lead one to form a correct opinion. Shortly, the distinctive features are—lupus is a disease of early life, it progresses slowly, bone is involved at a late period, cachexia is not present, and anti-syphilitic treatment fails to cure the disease. Tubercular ulceration is rarely met with in the nose unless associated with a similar affection of the larynx or lungs, and is, indeed, usually seen upon the mucous membrane covering the septum in advanced cases of phthisis pulmonalis.

With these few remarks respecting diagnosis, we may ask ourselves what is the probable prognosis in syphilitic affections of the nose during the tertiary period? In otherwise healthy individuals, when the disease is recognised early, recovery takes place rapidly under suitable treatment; but when the patient has been exhausted, when he is the subject of strumous disease, or when the case has been neglected and the disease become widespread, the prognosis is not only bad in respect to deformity, but also in reference to life, is very grave. This I have demonstrated to you by some of the cases.

In last lecture, I directed your attention to syphilitic disease of the larynx as it is observed in the primary, secondary, and intermediate stages. It will, however, be necessary to consider shortly the symptoms and diagnosis of tertiary disease. As in other parts the formation of gummata and the development of deep and destructive ulceration are the characteristic morbid changes, and present the same peculiarities as similar lesions in other parts of the air passages. It is therefore quite unnecessary to give a detailed description. Gummata occur most frequently upon the epiglottis or the aryteno-epiglottic folds, the inter-arytenoid commissure, or on the false cords. These formations break down and are replaced by deep ulcers which may be confused with tubercular or cancerous ulceration. The following circumstances must be considered in arriving at a diagnosis:—First, while the gumma is developing, and second, after ulceration has been established. Gummata, while the mucous surface is unbroken, may be confounded with tumours; the former, however, are not so clearly defined, and merge into the surrounding hyperæmic and oedematous mucous membrane. Again, the localities in which gummata develop differ from those selected by other neoplasms. They are most commonly seen upon the inter-arytenoid fold, the aryteno-

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epiglottidean folds, or on the epiglottis, situations where tumours rarely grow. The diagnosis of tertiary syphilitic ulceration, from that met with in tubercular and carcinomatous disease, is not always easy, but the following points are worthy of note:—First, in respect to the development of the ulcer. An ulcer arising from a *gunema* is more apt to be mistaken for cancer, but differs from it in so far that the ulcer forms at an earlier period in specific disease, and the destructive process extends more rapidly. The characters of the surrounding parts are also worthy of attention. In syphilis the mucous membrane is inflamed, deeply injected, and sometimes oedematous, and not infrequently ulcers may be also observed upon the fauces. In phthisis, on the other hand, the mucous membrane is anaemic, pale, and becomes considerably thickened over the arytenoid cartilages, while the epiglottis is often indurated and oedematous. In cancer, again, the mucous membrane may be practically normal, or may be the seat of acute inflammation.

Next, in respect to the situation and character of the ulcers. The former does not give one any very reliable information, as in all the forms the ulcers may occupy any part of the larynx. But it may be asserted that, with few exceptions, when the epiglottis is involved in syphilitic disease, its upper and anterior aspect is first affected, while in tubercular disease the under surface is most liable to attack. In tertiary syphilis the ulcers are, in the large majority of instances, solitary, unilateral, except when situated in the epiglottis, when they are central. The edges of the ulcer are sharply defined, its form is round or oval and the floor is deep, and covered by a tenacious material. In tubercular disease the ulcers are numerous, bilateral, their edges are irregular, the ulcer is shallow, the floor granular, and sometimes covered by minute nodules, and in the surrounding mucous membrane miliary tubercles may be seen. In cancerous ulceration, on the other hand, the ulcer is situated upon a considerable growth, it is solitary in most cases, large in size, and irregular in form. In tubercular and syphilitic disease of the larynx the glands are not, as a rule, involved, whereas, in carcinomatous affections, they usually become enlarged before ulceration appears.

These, gentlemen, are the principal objective points in the diagnosis; but there is one still which I have simply to mention. I refer to removal of fragments of the ulcer for microscopic examination. This method I have already fully explained to you.

As regards symptoms, in syphilis the patient seldom suffers from cough of a severe character, or from much pain, and dysphagia is only present when the ulceration attacks the epiglottis. These remarks refer only to the stage of ulceration, when a gumma is present, as I have illustrated to you by a patient, dyspnoea may be so marked as to require tracheotomy, and the voice may be entirely lost either from the gumma interfering with the action of the vocal cords, or by reducing the force of the current of expired air. When ulceration is extensive, as you observed in the patient J. W., not only phonation, but speech even in a whisper, may be prevented. Besides these symptoms, which are not always so definite as to justify one in coming to a precise diagnosis, the history of the case, and the concomitant phenomena, will generally lead you to a correct conclusion. In tubercular disease both cough and dysphagia are pronounced symptoms, and in most cases the former is not only irritating, but may be paroxysmal, and may be accompanied by slight or profuse haemoptysis. The latter may arise either from induration or ulceration of the epiglottis, or what is more common, it may be due to thickening of the mucous membrane over the arytenoid cartilages. As in syphilis, so also in tubercular disease, pain is not a marked symptom, but the patient is usually much emaciated, especially if the lungs or intestine be involved. The symptoms in cancer of the larynx depend greatly on the situation of the growth, probably more than upon its size. When situated high up—that is to say, above the ventricles, dysphagia is more apt to be present than aphonia; while, if the growth is situated below the limit just indicated, aphonia is an early symptom. In cancer there is greater obstruction to respiration, pain is more severe, and the danger of profuse haemorrhage is greater than in tubercular or syphilitic diseases.

*(To be continued.)*

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## ON INOCULATION FOR SMALL-POX.

By HUGH THOMSON, M.D., GLASGOW.

ONE of the most striking features of a large class of diseases consists in the fact that during their course a virulent matter is generated in the system of the patient which, brought in contact with the absorbing tissues of another individual, at least of the same species, communicates the same disease as he from whom it was derived laboured under. They have hence

been designated, not inappropriately, by a recent French author, M. Duclaux,\* *maladies homœogènes*.

The virulent matter is, of course, different for each different disease, and there seems to be no question that it essentially consists in microbes which, after multiplying in the body of the patient, are thrown off by the various emunctories.

According as the diseases thus generated are only communicable by the immediate contact of the virus with the skin, either entire or abraded, or are, in addition to this mode of transmission, communicable through the medium of the air respired, or the ingesta, they are said to be, in the former case, simply contagious, and in the latter, both contagious and infectious; whilst if they are communicable only by the air, or the ingesta, they are said to be infectious only. The distinction is of no great moment. It only shows that the virus of some is more diffusible than of others, and may thus be brought in contact with the absorbing tissues in a way that the virus of others cannot. Contagion is, therefore, a designation quite applicable to either class, inasmuch as contact is the essential point in all.

Another characteristic feature of these diseases to be noted is the almost universal susceptibility to take them which exists amongst individuals of the same species at least, together with almost complete insusceptibility subsequent to an attack and resulting from it. Some change is effected in the constitution by the disease which, barring a few exceptional cases, renders the individual ever afterwards proof against it. What this change consists in will probably never be discovered, for how minute the change may be we may imagine from the fact observed by M. Raulin, in cultivating the *Aspergillus Niger*. He found a culture liquid containing  $\frac{1}{50000}$  of zinc necessary for the growth of the aspergillus, for when the plant had exhausted the zinc it ceased to grow. Again, instead of subtracting something from the system, the change may arise from something added by an attack of the disease. For if a  $\frac{1}{1600000}$  (sixteen hundred thousandth) of nitrate of silver be added to the culture liquid, vegetation is immediately arrested. "The quantity of nitrate of silver necessary to prevent it (*aspergillus niger*) living in the body of a man weighing 60 kilometres would only be 60 milligrammes."†

By what agencies they originated at first we know not, nor are we ever likely to determine. Those prevalent now do not

\* *Le Microbe et la Maladie*, 1886, p. 135.

† M. Duclaux, *Op. cit.*

appear to have existed at all times, whilst many formerly prevalent have ceased to exist.

Small-pox belongs to this class of diseases. The earliest account we have of it by any medical writer, is from the pen of the Arabian physician Rhazes, who wrote in 910. But it appears to have been no new disease in his time, although, as he himself says in his preface, "no accurate or satisfactory account of it had been given." It was estimated by him that only one or two out of twenty persons escaped the disease, and Dr. Stoerck, who wrote about the middle of the last century, noted the universal susceptibility to the disease by the pithy remark—"Small-pox and love let no one escape." It would thence appear that susceptibility to the disease had not decreased during all that time.

Fortunately we have no means of knowing with certainty whether the susceptibility is now the same, but judging from the analogous affection, vaccinia, which has supplanted it, we should say from our own experience that it is quite as great as Stoerk represented it in his day.

What the mortality must have been may be more easily imagined than described, from the consideration that even now, with all the appliances of improved medical skill, it reaches, in the unvaccinated, to 35 per cent of all attacked. In the eloquent words of Macaulay—"The havoc of the plague had been far more rapid, but the plague had visited our shores only once or twice within living memory, but the small-pox was always present, filling the churchyards with corpses, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to the lover." It would, therefore, one would have thought, be with no ordinary joy that the discovery of inoculation should have been hailed, which promised to reduce the mortality to zero, and the suffering likewise. For, as Lady Mary Wortley Montagu, who, being at Constantinople with her husband—Ambassador at the Ottoman Court—wrote in 1717 concerning it (inoculation)—"Every year thousands undergo the operation, and the French Ambassador pleasantly says that they take the small-pox here by way of diversion, as they take waters in other countries. There is no example of any one having died of it, and you may believe I am well satisfied of the safety of the experiment, since I intend to try it on my dear little son." The operation was accordingly tried, and with complete success. Nevertheless the practice made very slow progress in Europe owing to all sorts of

prejudices, and in Scotland, so late as 1765, Professor Munro calculated that on an average of 31 years only 108 persons had been inoculated throughout the whole of Scotland.

But we have no intention of pursuing further the history of its introduction; our object is to study the phenomena presented by the disease when resulting from this mode of taking it.

The question has often been asked, Why should inoculation give rise to a milder attack of small-pox than infection? I think the answer must be, by the localisation of the disease in a non-vital part—that is, by implanting the microbes of the virus in a part well suited for their development, we create a local disease, which attracts to itself such an amount of the pabulum existing in the system, as renders it unfit for their development in the blood. In other words, we spoil the blood of the person inoculated as a suitable medium for the cultivation of the microbe, and consequently of giving rise to a general disease. If we examine the descriptions of inoculated small-pox given by the most successful inoculators, a summary of whose writings will be found in Dr. Woodville's *History of the Inoculation of the Small-pox in Great Britain*, 1796, we find that all were agreed that an early and extensive development of the disease in the inoculated part foretold a mild attack of general disease with a favourable issue, whilst a late and scanty local effect prognosticated opposite results. We subjoin the following extracts from Dr. Woodville's work in proof of this:—

Lady Mary Wortley Montagu, who had the honour of introducing the practice into this country, says, in her account of it by the Grecians—"Where they are wounded there remain running sores during the distemper which, I do not doubt, is a great relief to it."

Dr. Nettleton, at Halifax, in Yorkshire, says—"The incisions were made deep enough to penetrate through the skin, and in adults three quarters of an inch in length. The reason for making them thus large was to secure a more plentiful discharge of matter from them, a circumstance which he constantly found to mitigate all the symptoms."

Dr. Jurin concludes a very excellent account of the phenomena of the inoculated disease with the remark—"The greater the discharge is by the incisions, the more favourable the distemper is found in other respects."

Dr. Heberden has the following observations bearing on the point, speaking of the inconvenience of covering the wound with plaster:—"At the time, therefore, when some appearance of the infection may be expected about the incision, it will be

a little doubtful, where a plaster has been applied, whether the discolouring and inflammation be owing to the expected distemper or merely to the plaster. This will keep the patient and the attendants in an unnecessary suspense; if there should happen to be no eruption, this uncertainty would be much more perplexing and might never be cleared up. Whereas, if such an inflammation came on four or five days after the incision, when no application had been used to the part, there could be no doubt of its arising from the infecting thread; and it seems to be the general opinion in England that a regular inflammation and suppuration of the little wound proceeding from the infection of the variolous matter, will, without any eruption, fully secure the patient from having the small-pox afterwards." Here we notice, for the first time, that a successful inoculation, where the local effects were unmistakeable, was sometimes not followed by a general eruption.

Dr. Baker (afterwards Sir George), in an account of the practice of the Suttons, observes:—"In proportion as the discoloration round the place of incision is greater, the less quantity of eruption is expected. And, therefore, whenever a *small* discoloured circle is observed, purging medicines, stronger than ordinary, and more frequently repeated, are held to be necessary."

B. Chandler, Surgeon, Canterbury, in his "Essay," has the following remark:—"And as something wrong in the habit may be suspected when the punctures do not inflame so much as usual, I give the pills, in such cases somewhat more freely. This is no new observation; it has often been experienced in the old inoculation, that those patients had the disease most favourably, whose inoculated arms discovered an earlier inflammation, a more considerable swelling, and a broader disk of surrounding redness." Baron Dimsdale, who gives one of the best accounts of inoculation, notes—"The inflammation in the arms at this time (*i.e.*, the seventh or eighth day) spreads fast, and upon viewing it with a good glass, the incision for the most part appears surrounded with an infinite number of small pustules which increase in size and extend as the disease advances. On the tenth or eleventh day a circular or oval efflorescence is usually discovered surrounding the incision, and extending sometimes nearly half round the arm, but more frequently to about the size of a shilling; and being under the cuticle, is smooth to the touch and not painful. This appearance is also a very pleasing one, it accompanies the eruption; every disagreeable symptom ceases, and at the

same time it certainly indicates the whole affair to be over." Again, he states—"I have constantly observed that an early progress on the arm and an early commencement of the eruptive complaints, portend that the distemper will be mild and favourable; and on the contrary, where both are late, the symptoms are usually more irregular and untoward.

Mr. Sutton, \* who probably had the largest experience of the inoculation of small-pox of any man in England, says (p. 33)—"In short, supposing the eruption to be in proportion to the influx, which I consider to be inadmissible, then all those inoculated with the smallest quantity of infection would have the disease most favourably, and those whose inoculation was accompanied by an excessive quantity of infection would experience the disease in its most formidable way. But the truth is that this hypothesis is refuted by daily experience, even among those who have the least pretension to form an opinion, and it is now given up generally by the most intelligent." Again he states (p. 103)—"When the vesication takes place early, it will sometimes be accompanied by itching, and if, in consequence thereof, the head or table of the incision be rubbed off, a brown scab will be formed. This circumstance does not impede the progress of infection; on the contrary, it implies a successful infection." "This trifling casualty may, however, occasion many pustules to be produced within the limits of the inflammation, although few or none may be found afterwards on other parts of the body." He adds—"The redness and hardness not being increased since the first examination, and the incision not beginning to vesicate on the fifth day are unfavourable indications." Among favourable indications on the seventh day, he mentions—"A redness or crimson coloured inflammation begins about the fifth or sixth day to be sensibly enlarging and spreading forth from the base or outward margin of the vesicle. Its progress becomes quicker as it advances to this stage." "The inflammation on the arms of some may be simple and unaccompanied with pustules; on those of others it may be sprinkled with a few, and on others with a vast number, even to a degree of confluence. Whenever pustules so occur in any number their appearance ought to be late in the progress of the vesication."

Amongst unfavourable indications on the seventh day he notes:—"The table of the incision will be inclining to a dusky crimson or purplish colour, and the lymph, from its paucity, with difficulty to be obtained by scraping or pressure. The

\* *The Inoculator*, by Daniel Sutton, 1796.

redness about the incision (for it cannot yet be called an inflammation) makes but very slow progress—scarcely perceptible—and what is seen of it inclines to a dusky crimson colour. Pustules, too, are discovered within the limits of the inflammation at this early stage of it, and whilst the incision itself continues in a backward state.” He goes on to describe the progress of the disease on the ninth, eleventh, and thirteenth days, showing that where the local affection is strong and active, the general symptoms are favourable, and *vice versa*.

We hope to be excused for taking up so much space with these quotations, on the ground that these authors are not easily to be had and the practical experience of living practitioners on the subject *nil*.

That it is by localising the disease in the skin that there is so much difference between inoculated small-pox and the disease as it arises in the natural way is further shown by what takes place from inoculating with the cow-pox, the chief excellence of which is a certain fixedness, or non-diffusibility, so that it remains germinating where it has been planted, having no tendency to spread except by contiguity of tissue in the person vaccinated, or to be capable of being conveyed to another but by inoculation. This is abundantly evident in watching the progress of vaccinia in the arm of a child, from papule to vesicle, and from vesicle to pustule, with the gradual development of the areola, until it is sharply arrested by the insusceptibility of the subject, arising through exhaustion of the soil in which the microbe was growing. It is further shown by the fact that the constitutional disturbance is, in general, very insignificant, and not more, certainly, than one would expect from any local inflammation of the same magnitude. Now that we know that the essential element of the disease is a microbe growing in the body, the whole phenomena of the disease become very simple. The areola, too, so regular in its appearance, with its frequent incipient vesicles, and less frequent perfectly formed supernumerary vesicles, is manifestly simply the invasion of the surrounding skin by the microbes, so long as they find a fitting soil in which to germinate. We do not mean to say that no absorption of the virus takes place, indeed the occasional occurrence of post vaccinal eruptions, as well as the interesting experiments of M. Maurice Renaud,\* are proofs to the contrary, but that it takes place in so slight a degree, before the system has become protected by the local affection, that it is of little consequence in a clinical point of view.

\* *Comptes Rendus de l'Académie des Sciences, Tome 84.*

We shall not enter upon the subject of the unicity of the small-pox and cow-pox, but will only remark that it would be no great stretch of imagination to suppose, now that we are familiar with methods of attenuating virus and modifying them by cultivation, that cow-pox is small-pox so modified.

(*The part on Vaccination will appear in a future issue.*)

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ACUTE PRIMARY EMPYEMA; ADMISSION ON FOURTH DAY OF ILLNESS WITH ORTHOPNœA; ASPIRATION OF SERO-PURULENT EFFUSION ON FIFTH DAY; FREE INCISION, WITH ANTI-SEPTIC PRECAUTIONS A MONTH AFTER ONSET; HÆMORRHAGE AT TIME OF OPERATION; RAPID ARREST OF SUPPURATIVE ACTION; RECOVERY.

By ROBERT SINCLAIR, M.D.,  
Physician to the Dundee Royal Infirmary.

[*Reported by Henry Rutherford, M.A., M.B., House-Surgeon.*]

JOHN L., æt. 27, labourer, admitted 20th April, 1886, in great respiratory distress. Perspiring freely. Respirations 52; temperature 101°; pulse 120, irregular and compressible.

Dates his illness, which he attributes to going out in a suit of thin clothes on a cold evening, from three days ago (on the morning of the 17th), when, before getting up, he had great pain about the heart and left side of abdomen. Vomited that afternoon and evening; no diarrhoea. Began to cough and spit same day. There was, he says, some slight amount of blood in the sputum, more than at present appears in it; there being now merely a streakiness in tough mucus with some purulent admixture; certainly not rusty. No herpes.

Physical signs pointed to a considerable accumulation of fluid in lower half of left pleural cavity, without evidence of any intrapulmonary lesion.

The heart was very slightly displaced inwards; sounds rapid and tumbling.

Tongue moist, with white thick fur. Bowels not moved since day on which illness was said to have begun.

Hab. Castor Oil,	.	.	.	.	.	ʒss. statim.
Whisky,	.	.	.	.	.	ʒss. every 2 hours.

Temperature 101°.

21st.—3xss. rather thin pus drawn off by aspirator.

Evening Temperature,	98·4.
Midnight , ,	P. 128. R. 30.

22nd April.—Temperature at 1 a.m. 103·2°.

23rd.—3x. sero-purulent fluid by aspirator.

27th.—Temperature keeping about normal, but physical signs not improving.

28th.—Evening temperature 100·4°. R. 38. Examination of chest shows greater alteration of cardiac dulness than existed before first aspiration. It now extends fully 3" to right of the middle line.

3rd May.—Something of the cracked pot sound, with amphoric breathing, heard over an area about 2" diameter below angle of scapula.

There is a good deal of pain about shoulder and down arm.

6th May.—Thirty ounces pus, rather thicker than before, withdrawn from under 9th rib, pretty far back.

13th.—Physical signs as at last note. Twenty-two ounces of pus obtained by aspirator.

19th.—For the last fortnight evening temperature has varied from 98·4° to 102·2°, the maximum having been reached last night.

This morning Dr. Sinclair made an incision in the 6th space, introduced a bougie, and cut down upon it in the 9th. A large quantity of pus escaped. There was also considerable amount of bleeding.

Patient was under chloroform, and lay on his left side. The operation was done antiseptically, the spray being used.

Patient lost a considerable quantity of blood, and a plug between the ribs had to be used.

In the evening the dressings were changed, and a large drainage tube was inserted.

Evening temperature 98·4°.

24th.—There has been no purulent discharge since the day of the operation.

31st.—Being dressed every other day, discharge merely serous.

3rd June.—Evening temperature 102°. Temperature has been above normal for the last two nights, but not on any other occasion since operation. No obvious cause.

19th.—Patient to be up. Temperature normal since last note.

7th July.—Tube out. Probe passes about two inches only.

15th July.—Sent home. Merely a superficial granulating

sore left. There is some flattening of left side. Respiratory sounds rather distant, but can be heard down to base.

Patient has put on flesh remarkably, and feels well and strong.

Wound healed entirely very soon after he left the Infirmary.

*Remarks.*—This case has an interest apart altogether from its satisfactory termination. Most of us are familiar with primary serous pleurisies which become purulent after a time, with empyemas developed during the puerperal state, in the course of the specific fevers, and as a result of septic infection. An excellent example of double empyema from the last named cause occurred in my wards not long ago, and was recorded in the *British Medical Journal* of 30th May, 1885. But primary purulent pleurisy occurring in a person with no obvious constitutional weakness is unquestionably a malady of some rarity.

The patient, whose clinical history is recorded above by Dr. Rutherford, was a healthy looking young man who, in the midst of good health, was suddenly seized with acute pain in the left side; he was admitted three days later in great respiratory distress, with a weak, rapid, irregular pulse, with slight albuminuria (probably from interference with the pulmonary circulation) with a history of vomiting, short hacking cough, and blood-stained expectoration. An exploratory puncture the day after his admission not only confirmed the conclusion that we had to deal with a pleuritic effusion, but showed that the effusion was purulent. An aspirator trocar was introduced, and ten ounces and a half of sero-pus were removed with some difficulty, probably owing to the presence of lymph in the fluid. On account of the pain caused by the puncture to a man already in great suffering, and seeing that the amount of fluid was not as yet likely *per se* to imperil life, the tapping was not repeated immediately. Two days later another half-pint of sero-purulent fluid was removed by the aspirator. On the 6th and 13th of May the pleural cavity was again tapped, not because I had any hope, from the history of the case and the character of the fluid, of averting the necessity for the radical operation, but solely on account of the patient's disinclination to submit to it. On these occasions thirty and twenty-two ounces of pus, rather thicker than at the previous tappings, were withdrawn. Fortunately for himself, he did consent to free incision, although not till a month after the onset of the illness. Following the method of Dr. Clifford Allbutt, which I have frequently practised with success, I

intended to reach the floor of the cavity by two incisions, so as not to risk the integrity of the diaphragm. But the first intercostal space which I incised was so narrow that I could not touch the upper surface of the diaphragm either with my finger or a bougie. I then cut into the next space below, and was able through it to reach the diaphragm. The last incision was thus an easy matter. Very troublesome bleeding occurred from the two upper incisions, and was not arrested without plugging the wounds. It was obvious to me at the time that a good deal of blood had escaped into the pleural sac, and the subsequent progress of the case proved that this was so. But the treatment, strictly antiseptic from the first, was thoroughly successful in spite of the unfortunate escape of the blood internally, and would doubtless have been more rapidly so but for this awkward complication. With the exception of two evenings, the temperature never rose after the operation, and the progress went on uninterruptedly to recovery. This result was obtained without either washing out the cavity or resecting the ribs. The former expedient is, I am convinced, always hurtful except in the case of septic effusions; and the latter seems to me a mutilation to be avoided whenever recovery can be obtained by a simpler procedure. I saw the patient to-day, 15th November, and found him looking uncommonly well, with his left thorax certainly contracted to some extent, but with capital breathing power, the respiratory murmur being heard quite distinctly down to the base of the left lung. For the last two months he has been able to work as a "holder-on" to riveters—*i.e.*, holding up an 18 lb. hammer all day.

Into what category is this case to be placed? It was evidently not a case of simple pleurisy with effusion. Neither does it belong to the same formidable type as the unique foetid case recorded by Professors Gairdner and Buchanan and Dr. Maclare in this *Journal* in February, 1883, which was almost certainly secondary, although the cause was not discovered. But I suspect it must be classed with those rare cases of *pleuritis acutissima* (Fraenkel) and malignant pleurisy (Clifford Allbutt), although the early typhoid symptoms, the high temperature (104° F.) and the fatal result were wanting; and I would point to the overwhelming character of the initial symptoms, the disturbance of the circulatory and digestive systems, and the rapid formation of pus as evidence of the correctness of this opinion.

## DISLOCATION OF THE WRIST.

By ALEX. PATTERSON, M.D.

On the morning of the 2nd of August last, a gentleman, formerly a pupil at the Western Infirmary, came into Ward 14, saying that he had brought a case about the existence of which I was extremely sceptical. I had been always doubtful as to the occurrence of a simple dislocation of the wrist-joint, because no case had ever come under my observation, although over and over again I had been asked to see cases of supposed dislocation, of which every example, so far as could be made out, was simply a Colles' fracture.

The patient, J. F., aged 24, a carter, was ushered in. He carried the left arm bent to a right angle, the right hand supporting the left. He was pale and anxious looking, evidently suffering from a certain amount of shock, as the injury had been sustained only a short time previously. Patient stated that a horse attached to a lorry ran off, and that he and another man accustomed to handling horses ran towards him and caught each a rein. His comrade had to let go, whilst he, holding on with all his might, brought the horse suddenly round, when F. fell, bringing the horse down with him, the horse's shoulders resting upon his left arm, with the hand strongly flexed beneath.

On glancing at the hand, it was at once noticeable that it was not an ordinary wrist fracture. It presented an outline which was altogether new to me. *The carpal end of the radius could be plainly seen and felt, with the styloid process almost driven through the skin, which was tensely drawn over it, white and glistening.* Under chloroform, the dislocation was reduced without any special difficulty, nothing in the way of crepitation being detected at any time. From the amount and nature of the violence leading to the displacement, I imagined there would be a considerable amount of laceration of the binding ligaments of the joints, and took the precaution of putting the forearm up in splints.

Hamilton, of New York, gives, at page 782 of his work on *Fractures and Dislocations*, a most graphic description of the only case he had witnessed of a similar accident. Maclise, in his work (*Dislocations and Fractures*), gives views of the dislocation dissected.

## THE SIAMESE TWINS.

BY ALEX. PATTERSON, M.D.

THE very interesting article regarding the Twins of Locana, which appeared in the columns of the *Evening Times* a short time ago, recalls to mind a visit paid to the Siamese Twins years ago, when being exhibited in Glasgow. This was on the occasion of their second visit to this country, the first having been made in 1829. On their first coming to England the following document was signed by the Hon. Leigh Thomas, President of the Royal College of Surgeons; by Astley Cooper; by Thomas Copeland; by Benjamin C. Brodie; and thirty other surgeons and physicians hardly less distinguished:—

“ EGYPTIAN HALL, PICCADILLY, 24th November, 1829.

“ Chang and Eng—two youths born in the kingdom of Siam, whose bodies are, by a wonderful caprice of nature, united together as one—arrived in London on Thursday, the 19th November, and, on Tuesday, the 24th, were submitted to the examination of the most eminent professors of surgery and medicine of the metropolis, as well as some other professional gentlemen of scientific and literary pursuits, in order that, through their report (if favourable), the public may be assured that the projected exhibition of these remarkable and interesting youths is in no respect deceptive, and further, that there is nothing whatever offensive to delicacy in the said exhibition. These youths have passed their eighteenth year, and are in possession of full health and extraordinary bodily strength, display all the faculties of the human mind in their fullest extent, and seem in every respect to enjoy a state of perfect happiness and contentment. The youths having been thus introduced to the British public, were visited on that day by the following distinguished persons, among many others, who testified their entire approbation of the exhibition, and obligingly gave it the sanction of their names.”

The subjoined extract from a paper read before the Royal Society may be interesting, if not to others, at least to members of the medical profession:—

“ The band of union is formed in the following manner:—At the lower part of the sternum of each boy the ensiform cartilage is bent upwards and forwards, meeting the other in the middle of the upper part of the band, where movable joints exist, which admit of vertical as well as lateral motion,

each junction appearing to be connected by ligamentous structures. It is difficult to define precisely where the respective cartilages from each body meet, and whether a slip from one of the cartilages of the false ribs enters into the structures of these parts, but it is certain that the ensiform cartilages have assumed an extended and altered figure. The cartilaginous portion occupies the upper region of the band. The outline of the band is convex above and arched below. Under the cartilage, while they stand in their ordinary posture, are large hernial sacs, opening into each abdomen, and into which, on coughing, congenital herniae are forced, probably in each boy formed by a transverse portion of the arch of the colon. Generally, however, and under ordinary circumstances, these herniae are not apparent. On the lower edge of the band, exactly in the centre, is situated the umbilicus, or navel, there being but *one* in common between them. *Whether there is a communication between the two abdominal cavities, or a distinct peritoneal sac belonging to each hernia, is by no means obvious.*"

When in Glasgow, the twins were about sixty years of age, with grey hair, cut short, and faces clean shaven. The skin was of a light coppery colour, the countenance of the Japanese type, with almond shaped eyes. Chang, the right hand man of the brothers, was rather taller than Eng; both were most affable and gentlemanly in manner, entering freely into conversation with their visitors. So much was I interested in the matter that three visits were paid, and on the last occasion I lingered until the audience had dispersed. On compressing Chang's end of the band, which was, in its entire length, about two-and-a-half inches in diameter, and inducing Eng to cough, the hernial protrusion took place only to a limited extent, and on obstructing Eng's end, Chang's took place only to a similarly limited extent. Had there been a patent canal between the two abdominal cavities, the protrusion on either side would have rushed across the whole way. Chang, at the conclusion of the examination, courteously asked what I thought of their case. The opinion was given that the band was solid in the centre, there was no vital communication between the two, and that they could be separated with perfect safety, and offered, if they would consent, to perform the operation. Both smiling, Chang replied—"Well, Doctor, you may be right, and might perform the operation successfully, but with what result to us? You would have given us a separate existence, and at the same time have deprived us of the means of living!"

The writer in the *Daily News* is, I think, in error, when he states that the second Siamese twin died of blood poisoning, six hours after his brother's death. He lived for three days attached to his dead relative. Why the living brother was not at once severed from the dead, one cannot understand. The *post-mortem* examination proved that at any period during their life the Siamese twins could have been separated with entire safety. The twins of Locana are at present being exhibited in New York.

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### CORROSIVE SUBLIMATE AS A DRESSING IN MINOR SURGERY.

BY DR. CALDWELL SMITH, MOTHERWELL.

IN this short communication I do not intend to enter to any extent into the literature of corrosive sublimate as a surgical dressing, as I have had neither the time nor the opportunity to study it, but it is the result of a little experience in the use of a surgical dressing which may serve to ventilate (for my own instruction as well) the opinion of those who have much more extensive experience in its use.

I may, however, refer you to Sir Joseph Lister's paper on this subject in a lecture delivered before the Medical Society of London, which appeared in the *Lancet* and *British Medical Journal* of October, 1884. I may also refer you to the remarks of Dr. Watson Cheyne in his book on the *Antiseptic Treatment of Wounds*.

Watson Cheyne says that it has been used since 1878 in Germany, and he describes the methods employed by German surgeons.

The usual strength is 1 in 1,000 for dressings, but in Sir Joseph Lister's paper he says he has been experimenting with a gauze made of 1 part of corrosive sublimate to 100 of serum.

There is no doubt as to the efficacy of corrosive sublimate in destroying spores. In the proportion of 1 of C. R. to 300,000 of cultivating material, the bacillus anthracis is unable to grow. A watery solution of 1 in 20,000 destroys spores in ten minutes, while stronger solutions destroy them in a few minutes.

The action of corrosive sublimate on enzymes, such as ptyalin and pancreatin, is so very destructive that one part in 52,000 is sufficient to completely destroy these ferment.

Dr. Lauder Brunton, in regard to this, says in his book:—“The extraordinary destructive power of corrosive sublimate, and the fact that it continues to act in blood serum just as it does in distilled water, seems to indicate that it might be used to destroy bacilli in the body, especially as Schlessinger has found that it may be injected subcutaneously into rabbits and dogs daily for several months without doing any harm, even in doses of 1 cc. of a  $\frac{1}{2}\%$  solution. Koch’s experiments on this have led to a negative result, the animals inoculated with anthrax dying of the disease notwithstanding the injection of the corrosive sublimate.”

Farther on in the same book (I mean his book on *Pharmacology and Therapeutics*), Lauder Brunton says, as regards the disinfecting power of corrosive sublimate, that it appears to be the only really trustworthy disinfectant.

As regards the preparation I am in the habit of using, I may say that I have for the past 18 months used the sublimate tampons, prepared by Paul Hartmann. They are simply absorbent wool impregnated in some way with corrosive sublimate and enclosed in a small muslin bag. These tampons are so prepared that one tampon added to two pints of water makes a solution of 1 in 1000. They are extremely convenient and cleanly, and especially valuable for country practice. You can take the bottle containing 6 tampons with you to the case or accident it may be; put one tampon in a quart of water, shake it, and your solution is ready for use.

I have tested chemically, but only qualitatively, this solution after standing for a few minutes, and found that the solution gave all the tests for corrosive sublimate.

In the district in which I am practising we have frequently accidents of various degrees of severity, the worst cases being generally removed to hospital, but the minor cases are treated at home, and it is in those cases of minor accidents that I have been using corrosive sublimate exclusively for the past two years.

In incised and lacerated wounds of the scalp, I have found this dressing specially useful, and although we all know how kindly scalp wounds heal provided no erysipelas sets in, yet I have found that this dressing causes them to unite much more quickly and in all my cases without any suppuration.

One of the last cases of scalp wounds I had was a very severe one. A boy of 15, a miner, had the whole of the scalp on the right side torn off, the right parietal bone being completely exposed.

I may say that the injury was caused by the fall of a stone

from the roof of the mine, the stone striking him on the forehead when he was lying down, tore the scalp off from the front, and folded it on itself.

I washed the wound, which was full of coal dust, with this solution, brought the scalp into position, stitched the wound very completely with chromicised catgut, then dressed it with corrosive sublimate solution. I used as dressing material Gamgee's absorbent tissue, and over that I put gutta percha tissue, and covered all with the ordinary roller bandage.

I changed the dressing next day, washed it out with the solution, and dressed it as before. I dressed it in all, I think, 5 times, and in 10 days the boy was running about. There was not at any time the least suppuration, although the parts over the forehead were much swollen for 3 days, as that was the spot on which the force of the blow had been expended.

About 3 weeks ago I had about 7 cases of scalp wounds to dress within an hour. These wounds had all been caused by police batons. One man had 5 wounds, each over  $1\frac{1}{2}$  in. long, on his head, another 3, and another 2. All the cases were dressed with Gamgee tissue dipped in this solution, and they all recovered in a few days. I had another case that same night—a lacerated wound of the lower jaw, the wound extending across from opposite second bicuspid tooth on the one side to opposite the same tooth on other side, being about  $\frac{3}{4}$  in. below lower lip at the centre. The wound was very dirty and ragged, and I was told that it had been caused by a piece of slag. I dressed this wound very carefully, and it healed without any suppuration in 5 days, and the cicatrix is now hardly visible.

In minor amputations I have also had good results from the corrosive sublimate dressing, the wounds in most of the cases healing up in less than a week.

In cases of smashed fingers we have a very good test of its efficiency as an antiseptic dressing. In most of my cases the hands are covered with oil, grease, iron, and coal dust, and it is almost impossible to clean the hand and skin in proximity to the wounds at the time.

I wash the wound well with the 1 to 1,000 solution, then dust iodoform powder over the part of hand or finger close to the wound, and dress as before with Gamgee tissue soaked in the solution of corrosive sublimate.

I always make a point of changing the dressing next day, washing it well and getting off as much of the oil, &c., as I can, and then dressing as before. In all the cases treated thus I have never had the smallest amount of suppuration.

## 24 Corrosive Sublimate Dressing—DR. CALDWELL SMITH.

I may give one case as an illustration. A boy of 16 got his foot jammed in a coal pit, the boot was cut through and the second toe almost completely severed, the great toe smashed and the foot bruised very severely, I removed the second toe at the joint and dressed the wounds with the corrosive solution, and in three weeks the boy could get on his boots and go to work. In this case also there was not any suppuration although the wounds were very dirty, but after the second dressing they were completely aseptic.

In burns of all degrees, accidents with which I have to deal almost daily, I have found this dressing very beneficial. I have seen burns of all degrees of severity and extent, and all the cases are treated similarly except those of the first degree, in which there is no vesication.

I, on first seeing the burn, generally dress it with the first dressing I can get, either cotton wool alone or cotton wool with carron oil. In two or three days I change this for the corrosive sublimate, and it is almost marvellous how the epidermis heals under it. I am sure I have dressed over 50 cases in this way, and in none have I had anything but the very best results.

The burns which I have most to deal with are generally on upper or lower extremities, and of course complete rest of the part is a *sine qua non* in this treatment as in any other.

One of the evil effects of corrosive sublimate is said to be eczema, and one would think that this would be much more likely to show itself in a burn involving a large amount of skin, but in none of the cases which I have had has there been the slightest tendency to, or symptom of skin irritation of any kind, and this, in my experience, holds good of corrosive sublimate applied to wounds of every description.

Lauder Brunton makes no mention of it causing eczema or other skin irritation ; on the contrary, he says it is useful in pruritus scroti and pudendi, urticaria, as well as in parasitic diseases, as favus and scabies.

The last burn I treated was a case of burn of right hand and arm. The burn was a very severe one, large vesicles extending from knuckles up to within 2 in. of elbow. The man had not sought advice for about a week after the accident, but was using white lead as a dressing, plastering it all over the sore, and covering it with a bandage. He said he had heard that white lead was good for burns. I washed it all well with the 1 in 1,000 solution, removed all the dead epidermis, and dressed it as usual with Gamgee tissue. The wound was looking very bad and the granulations exuberant. A good deal of foul smelling pus was washed away before

applying the first dressing, and I noticed especially that the arm was very much swollen and very tender. He also complained of stiffness at the shoulder, and on examining his axilla I found the axillary glands were very tender and swollen. He had not, however, been giving his treatment a chance, as he had been using his arm a little, and not giving it complete rest. I dressed the wound 4 times in all, and after removing the last dressing on the 5th day, the new epidermis had covered the whole of the wound, and he was able to go to his work on the 7th day. After beginning the sublimate treatment, I never saw a case which showed more conclusively that this dressing is a completely antiseptic one, as after the first dressing there was not the smallest amount of purulent discharge, although before beginning this treatment the pus was both profuse and foetid.

These remarks do not rest on a very large experience either as regards time or number of cases, but probably some of the members of this Society may have had a larger and more varied experience in its use.

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## ORIGINAL RESEARCH IN SANITARY SCIENCE.—THE ARTIFICIAL CULTIVATION OF VACCINE LYMPH.

By JOHN DOUGALL, M.D., F.F.P.S.G.,

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[Competitive Essay for Grocers' Company, London. First Quadrennial  
Discovery Prize of £1,000, 1883-1886.]

(Continued from page 418 of last Volume.)

### RÉSUMÉ.

I SHALL now consider in some detail the conditions of the experiments under the following heads:—The Soils; Sterilisation; The Seed; Methods of Sowing the Seed; Temperature during Incubation; Methods and Periods of Incubation; Results of Incubation; The Micrococci.

THE SOILS.—The soils or culture fluids consisted, as already stated, of a variety of albuminous bodies, as white of egg, veal and beef broth, blood serum, gelatine, meat peptone, and fish extract with, in one or two instances, decoction of barley, extract of malt, and solution of gum acacia. To these an

alkali was frequently added in varying small proportions to increase the alkalinity of the soil, or to render it alkaline, or neutral. Some of the soils were used *per se*, but chiefly more or less mixed, and in various degrees of dilution or viscosity. Glycerine was added in many cases to prevent decomposition, as it is not hurtful to the vitality of vaccine coccii. Whether it is so to their proliferation, the experiments do not decide, as six apparently successful cultures—35, 61, 64, 65, 68, 83, contained glycerine, and seven—15, 16, 21, 94, 98, 103, 112, contained none, and although no less than fifty-seven unsuccessful cultures were glycerised, so also were the three most apparently successful ones, 35, 61, 64. Dr. Quist, Helsingfors, Finland, in a paper published in the *Gazette Hebdomadaire*, 3rd February, 1884, on the Artificial Culture of Vaccine, says that "the microbes of vaccine can bear a pretty large quantity of glycerine—much more than other micro-organisms, the mucoidines in particular." Benzoic acid, experiment 16, salicylic acid, 17, and common salt, 82, were also added as aseptics without appreciable result. Decoction of barley, experiment 27, extract of malt, 81, 83, and solution of gum, 92, were used more at hazard than from any *a priori* qualities of success they seemed to contain. Fifty-eight soils contained white of egg; thirteen of the whole 118 cultures seemed partially successful, and of these ten had white of egg. Whether this apparent success is due to the purity of the egg albumen, to its otherwise forming a favourable soil, or to the large number of trials made with it, is difficult to decide, but it seems in its favour as a culture medium that 58 soils into which it enters out of 118, have 10 successes, while the remaining 60 soils, composed of several other bodies, but containing no white of egg, have only 3 successes. White of egg, however, is difficult and troublesome to work with from its persistent viscosity, as, when the culture gets concentrated during incubation, it is next to impossible to store it in tubes, and also very annoying from its tendency to threadiness when separating a small portion from the bulk. I have tried several alkaline bodies to learn whether by incorporating them in moderate quantities with white of egg its tenacity would be destroyed, but ineffectually. The blood serum was procured in two conditions—fluid and dried. The fluid sort was obtained from ox blood, which, as it flowed from the animal, was received into a glass vessel previously sterilised by boiling water, and its neck stuffed with cotton wool, the water being allowed to remain in the vessel. When being filled the wool was removed, the water emptied out, the

blood allowed to flow in, and the wool at once replaced. The vessel was then kept quiet and cool, and in about 24 hours the wool was removed, and the supernatant clear serum drawn off by a pipette, and used both unsterilised and sterilised by discontinuous heating, as stated. The dried serum was of the kind known in commerce as "blood albumen," but a specially fine sort was procured for me by a person who uses large quantities in calico printing. A portion of its aqueous solution placed under the microscope revealed a few blood corpuscles and fibrinous shreds, but careful frequent filtering made it almost pure. Like the fluid serum, its solution was used both sterilised and unsterilised. Little need be said about the other bodies employed as soils; beef and veal broths, gelatine, meat peptone, and fish extract have all been recommended as suitable media for cultivating micro-organisms. So far as I know, all active zymotic viruses are more or less alkaline; hence, I was careful to see that all the cultures or soils had an alkaline reaction, with two or three exceptions, which were used in a neutral state experimentally.

Most of the substances, then, which formed the basis of the cultures were used *per se*, in mixture, in various quantities, degrees of strength, and of alkalinity, while the amount of glycerine added was also very varied.

*Sterilisation of Soils.*—Whether it is really necessary for the successful cultivation of vaccine cocci that the artificial soil be thoroughly sterilised the experiments do not apparently determine. As already stated, these cells multiply in the body along with other propagating zymotic viruses, and at least retain their vitality out of the body in presence of some common and of certain uncommon impurities. Whatever view be held as to the nature of these viruses, it is generally admitted that common impurities—*i. e.*, dust, &c., contain spores of micro-organisms. From these facts one is led to conclude that thorough sterilisation of the soil referred to does not seem indispensable. It is well known that many soils, in common use for propagating alleged specific micro-organisms, are capable of nourishing simultaneously different species of moulds, bacilli, bacteria, &c.; indeed, the object of sterilisation is to destroy all organisms and their spores in the artificial soil, so as to procure a crop of one particular organism only—to obtain, in fact, a pure cultivation. Hence, generally, it is not that a soil will not grow a given species of organism, but that it will grow many species, so that if the spores of other organisms present are not "killed off," or prevented from fructifying in some way or other, the growth of the organism

which it is desired to cultivate may be more or less "choked" by the combined exuberance of the other organisms, although not necessarily to a degree which prevents its moderate development.

But usually the grand object in making pure cultivations of an alleged or probably specific organism is to learn whether it will produce specific symptoms when put into the animal body, and in such a case it is, of course, absolutely essential that no other organism, in any condition of development whatever, be introduced at the same time. With vaccine cocci, however, it does not seem necessary that pure cultivations be attempted merely to prove their specificity. That, I hold, is already proved, although it would be a valuable and striking confirmation of the results of the diffusion experiments of Chauveau, Sanderson, &c., already quoted, were such experiments successfully accomplished. On the whole, then, that the absolute sterilisation of artificial soils is requisite for the reproduction of vaccine cells, so as the product should equal in virulence standard vaccine lymph, seems to me doubtful, because these cells multiply in company with certain other zymotic poisons; because they at least live when mixed with several common and some rarer impurities; because, as many other species of micro-organisms flourish together on the same soil, may not the vaccine coccus be one of these? and because even my sterilised soils gave negative results. To some the idea may seem new, but I deem it within the bounds of possibility, as regards the artificial cultivation of vaccine cocci in particular, that the heating, and especially the boiling, of soils, whence they are to be sown, impairs to a great extent the adaptive sensibility of the soils to the procreative functions of the seed. As may be learned from the experiments, however, the soils were sown while in different states as regards the effects of heat on them. To those not heated glycerine was added in most cases, for reasons already stated. It was sometimes mixed with the soil and heated with it, and sometimes the soil was heated by itself, and cold glycerine added afterwards. Many of the soils, if brought to the boiling point, would have coagulated. Some of these were therefore heated to 140°, for 30 minutes daily, during three consecutive days discontinuous heating. Others of the soils were boiled for various periods, and, undoubtedly, thoroughly sterilised.

**THE SEED.**—Fresh, active, humanised vaccine lymph from tubes, and directly from the vesicle; calf lymph a few days old from ivory points; typical vaccine crusts a few days to

three months old ; and portions of epidermis, or the covering of what Jenner called "the pearl on the rose" vaccine vesicles, were used as seed. It is almost needless to say that vaccine crusts and the epidermis of the vaccine vesicle are nearly solid masses of vaccine cocci, and that they vaccinate successfully—the crusts by being powdered and sprinkled on the scarifications ; also by being dissolved in water and the fluid applied ; the epidermis by contact with the abraded cuticle. The seed was used thus to learn whether its various forms would produce different results. The quantities of vaccine crust employed must have obviously contained an amount of cells enormously in excess of that in the humanised or calf lymph, or epidermis.

*Methods of Sowing the Seed.*—These methods were very various. Little balls of wool and of sponge containing the fluid lymph were suspended in contact with the soil, the purpose being to allow the surrounding air free access to the vaccine cells while in contact with the soil. Discs of woollen cloth, bibulous paper, pumice stone, cork, and bits of sponge were also used for their porous nature, as the medium of contact between the seed and soil ; the lymph having been deposited on them, they were floated or placed in the centre of the soil. Discs of vegetable parchment, on which lymph was placed and allowed to dry, were also floated on the soil. Sometimes the lymph was put on one side, sometimes on both sides ; sometimes the lymphed side was floated upwards, sometimes downwards, and where the disc was lymphed on both sides, of course the lymph was in both positions. Vegetable parchment was used, and the lymph allowed to dry on it, to learn whether, by thus keeping the vaccine cells at one part of the soil, the culture would succeed. The ivory points containing dry calf lymph were put gently on the surface of the soils, but soon sank. In very many cases lymph was ejected from a tube directly upon the soil ; frequently the seed and soil were first mixed, and afterwards drawn into a large capillary tube, and the latter sealed or not ; also placed in a glass cell ; also soaked up by a bit of sponge, and then put in a glass tube. Vaccine crust, both whole and powdered, was wrapped in woollen cloth and half immersed in the soil ; also put in a glass tube whose bottom was of fine woollen cloth, and this tube placed in another tube with a glass bottom, and containing the soil, so that the crust was partially immersed ; also placed naked in the centre of the soil, &c., &c.

*Temperature during Incubation.*—This varied from 70° to

98°; a good many of the cultures were incubated at 80°. The degrees below 98° were adopted merely experimentally, as 98° seems the most likely degree for successful incubation, that being about the normal bodily temperature. Many cultures similar, though not identical in composition to those incubated at the lower temperatures, were also incubated at 98°. As already stated, the incubator was fitted with a thermometer, and a Reichart's thermo-regulator, which, on the whole, worked well.

*Methods and Periods of Incubation.*—Although the great majority of the cultures were placed in the incubator, several were, instead, submitted to the heat of my own body, and some to the temperature of a small room, which was easily kept at about 80°. As most of these latter consisted of white of egg and glycerine, a mixture that "keeps" long, they were simply covered with a watch glass or bell jar, as much to prevent evaporation as to exclude dust. A very annoying circumstance during incubation was the undue concentration of the cultures by evaporation. Where the quantity of soil was at first small, this was sometimes so comparatively great that a portion of the original stock mixture or some water had to be added to render the soil of the consistence of lymph. Sometimes, indeed, even before the period of incubation was deemed complete, the culture had quite dried up. A good deal of attention was required, and several methods devised to obviate this—as stuffing the necks of the tubes with wet cotton wool, and covering it with waterproof; wrapping the watch glasses in wet blotting paper, wet cotton wool, &c.; placing the various vessels containing the cultures in a flat dish holding water, in the incubator, &c., &c.

The periods of incubation varied from three to chiefly seven days; I had no special reason for stopping incubation at the lesser period, but it was continued to about, and seldom beyond seven days, as that is the natural period of maturation of the vaccine vesicle. Moreover, as a general rule, when incubation was arrested at the shorter period, the culture had been submitted to the maximum temperature—*i. e.*, 98°, and *vice versa*, it being well known to public vaccinators that vesicles often mature sooner in hot than in cold weather. It is not improbable that in some cases the periods of incubation were too short, and in others too long.

*Results of Incubation.*—The results of incubation of the fertilised cultures were investigated in two ways—viz., by the microscope and by vaccination; the latter has been amply noticed in the introduction, but the former, merely touched

therein, shall now be considered in detail. It will be noticed that the microscopic appearances in most of the experiments only refer to the presence, more or less, of micrococci. I purposely avoided giving further microscopic details, as the cultivation of these organisms was a great point in the inquiry, although a greater, and in fact, the vital point or question, quite apart from the most hopeful microscopic appearance of success was, did the artificial culture vaccinate? With the exception of Experiments 1, 10, 19, 78, in which the microscope revealed motile organisms, chiefly bacteria, causing the cultures to be rejected as unsafe for vaccination, microscopic examination might have been dispensed with. Moreover, excepting in the above instances, it was found that whether many, few, or no micrococci were present, all other organisms were absent. This proves that the vaccine cells were not choked by other growths; and the fact that not a single scarification which received the artificial lymph festered in the least degree, also shows that the cultures were aseptic, or if not, that the micrococci they contained were harmless. It is hence almost unnecessary to say that the other objects seen in the cultures consisted exclusively of a few stray amorphous particles, with shreds, flakes, and filaments of coagulated albumen and gelatine.

A rather constant feature of those cultures incubated on sponge, more especially when enclosed in a tube, was the presence of immense numbers of micrococci; the same result was noticed to a less extent where sheep's wool was used instead of sponge. This was obviously owing to the porosity of these materials, by which a proportionately large quantity of air was mixed with the lymph and culture fluid in their interstices. Hence it appears that air is favourable to the development of those micrococci found in the cultures. The same feature was also rather constant in the soils fertilised by vaccine crusts which are also somewhat porous; also in several other cultures, but not with the same regularity as in those mentioned; sometimes the exuberance of the micrococci was apparently more, or altogether owing to the nature of the soil than to any medium of contact between the seed and soil, of which experiment 108 is a notable example.

On the other hand, as a general rule, micrococci were sparsely present where non-porous material, such as vegetable parchment, formed the medium of contact between the seed and soil, and also where glycerine in large proportion, and particularly, if heated, was present in the culture. Experiment 50 is, however, a prominent exception in the latter case, while

### *The Artificial Cultivation of*

the control Experiment 55, which yielded abundant micrococci, although no lymph had been added, affords strong proof that the micrococci found in Experiment 50 were not of vaccine origin. Moreover, it is seen in Experiment 56 that micrococci were present in the culture fluid before it was fertilised ; now, this fluid was prepared 15 days previously, and hence these organisms must have grown in it during that time. The reason why some of the cultures were not examined by the microscope was owing to an accident to the instrument ; they were nevertheless tested, like the others, by vaccination.

*The Micrococci of Natural Lymph and of the Artificial Cultures.*—In a great many instances, while examining the artificial cultures by the microscope, the cocci present were carefully contrasted with those of active natural lymph, and no real morphological difference detected. In most cases the natural cocci varied more in size than the artificial, which were usually very uniform in that respect. Moreover, the former were much more frequently in colonies, dumb-bells and triads, than the latter, which were mostly single. These remarks apply to the cocci of all the cultures ; no morphological difference being observed in these from different soils, so that they seemed all of the same species. Again, in none of the cultures could the artificial cocci be satisfactorily distinguished from the natural which had been mixed with them. In two or three cultures, however, nearly all the cocci had a more sharply defined outline and seemed smaller and darker than usual, but nothing more ; while in one or two others, where only a few were present, and very probably those of the natural lymph introduced, they all had a shrivelled or macerated aspect.

No attempt was made by the staining process to discriminate between the natural and artificial cocci, the grand test of vaccination being solely relied upon. In many cases the cultures were greatly richer in cocci than natural lymph, yet in as many instances the reverse was the case, and in a few of the cultures the number of cocci greatly exceeded that in any specimen of natural lymph with which any culture had been compared.

### CONCLUSION.

The results of this inquiry, based on the foregoing experiments, do not fulfil the terms of success in solving the announced problem. In other words, I have failed to cultivate vaccine lymph in artificial soils. I shall now briefly analyse

the chief conditions of the experiments, and endeavour thereby to elicit the probable cause or causes of failure.

I deem it right, however, first to remark upon the apparently partially successful vaccinations with artificial cultures as recorded in Experiments 15, 16, 21, 35, 61, 64, 65, 68, 83, 94, 98, 103, 112. As already stated, the natural and artificial lymphs were nearly always used simultaneously, on the same arm, and in close proximity, and it was found that when the artificial lymph proved successful (?) the vesicle was nearly always small and imperfect. This apparent success of the artificial lymphs and smallness of their vesicles, I am convinced, arose from two causes—1st. *A minute portion of the natural lymph from the lower vesicle getting mixed with the artificial lymph on the upper vesicle.* This view is partly confirmed by a few unsuccessful vaccinations, not recorded, in which artificial lymph was alone used; hence no natural lymph could get mixed with it. Yet in one instance, at least, when another portion of this same unsuccessful artificial lymph was used to vaccinate along with natural lymph it proved successful (?) Every precaution was, of course, taken to keep the two lymphs separate during vaccination, but I am satisfied, from the nearness of the scarifications, that they sometimes got mixed. 2. *The artificial lymph being merely diluted natural lymph.* This seems proved by the successful (?) Experiments, 35, 64, 68, 83, 94, 98, 112, with artificial lymph, where it will be seen that comparatively small quantities of culture fluids were used, or, what amounts to the same thing, comparatively large quantities of seed. The fact of unsuccessful vaccination with artificial lymph from soils sown with the natural lymph from vesicles produced by artificial lymph—Experiments 40, 41, 42, 43, 71, 72, 73, 96, 97—does not of itself disprove the activity of this (artificial) natural lymph, as artificial lymph from soils sown with natural lymph from vesicles produced by natural lymph was also, in most cases, unsuccessful.

The results of the mode of vaccination may be questioned by saying that the natural lymph being stronger than the artificial, prevented the latter from acting by appropriating most of the pabulum in the vicinity of the vesicles, &c. This mode, however, both served to test whether the artificial lymph had infecting power, and if so, to contrast such power in contiguity with that of natural lymph, no matter whether any vesicles produced by the artificial lymph were caused by mere dilution or admixture of natural lymph, or by lymph resulting from the actual reproduction of the natural vaccine

cocci in the cultures. Now, as in every instance, the natural lymph proved the stronger, the experiments failed to fulfil a vital condition in the solution of the problem—viz., “that the artificial lymph should prove itself of identical potency with standard vaccine lymph.”

The apparently successful cultures, the intervals from their preparation until tested by vaccination, and the kind of vaccine seed used, were as follow:—

Experiment	15	26 days.	Humanised lymph.
”	16	60 ”	”
”	21	60 ”	”
”	35	5 ”	”
”	61	27 ”	Epidermis of vaccine vesicle.
”	64	7 ”	Humanised lymph.
”	65	6 ”	”
”	68	17 ”	”
”	83	49 ”	”
”	94	9 ”	”
”	98	5 ”	”
”	103	7 ”	”
”	112	90 ”	”

The experiments in which single cultures vaccinated apparently successfully more than once, and the intervals between their preparation and vaccinations are as follow:—

Experiment	35	5 days.	14 days.	17 days.	25 days.
”	61	27 ”	39 ”	”	
”	64	7 ”	14 ”	60 ”	

In comparing these 13 experiments with each other, I cannot elicit any particular reasons for their success other than those given—viz., dilution of, or accidental admixture with, natural lymph. Experiments 35, 61, 64 seem the most successful in the whole series in respect that their cultures apparently vaccinated in 2, 3, and 4 instances respectively, the intervals between the vaccinations varying from 5 to 60 days. They too, however, come far short of solving the problem, while their success, in particular, I consider as due to the small quantities of culture fluid employed, and the consequent mere dilution of the natural lymph added as seed. No matter whether the artificial lymph was used when 7 or 60 days' old, experiment 64, the result in these cases was an imperfect vesicle. Moreover, even when comparatively large quantities of culture fluids were originally employed, most of them lost from a half to about  $\frac{2}{3}$ ths of their bulk during incubation by evaporation, while the vaccine cells with which

they were inoculated remained the same in number. It may be observed that all the apparently successful cultures were sown with fluid lymph excepting Experiment 61, in which vaccine epidermis was used. As this may be considered a solid mass of vaccine cocci, part of which dissolved in the culture, the experiment falls to be ranked with those in which fluid lymph was employed as seed.

I was a little surprised to find Experiment 64 ranking among the most successful of the whole series, as the same culture fluid was used unsuccessfully, although in different ways, in Experiments 62 and 63, while the stock fluid of 64 contained a tuft of mycelium, and had to be heated again before it was used in Experiment 64. From the "dilution" view, however, the success of this experiment means nothing. As already stated, with one or two exceptions, all the vesicles produced by artificial lymph were very small, although the scarifications received a much larger quantity as compared with the amount of natural lymph employed to vaccinate. Moreover, no culture fertilised with a portion of the same stock of artificial lymph which seemed to have produced these small vesicles, proved in the least degree active. Now, these small vesicles, being caused by fluid which had been mixed or fertilised with a small, yet, for ordinary cases, a sufficient proportion of natural lymph, shows that this fluid or artificial soil did not propagate or multiply the cocci of the natural lymph, but merely diluted it to the last degree. As may be seen in Experiments 40, 41, 42, 43, 71, 72, 73, 96, 97, the obtaining of even small vesicles with the artificial lymph induced me to continue the culture with the next generation, but as already stated, the result was always *nil*.

(*The conclusion of this paper, with Tables giving a Synopsis of the Experiments, will appear in our next issue.*)

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## CURRENT TOPICS.

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**GENERAL ARRANGEMENTS FOR 1887.**—During the closing weeks of the past year the Editors, along with the General Business Committee and several gentlemen who were specially invited, had under careful consideration various suggestions, all of which had been proposed with the object of increasing the utility and general interest of the *Journal*. In various quarters the opinion was expressed that the *Journal* would

be of much greater interest to a large circle of our readers, if the department of Current Topics—*i.e.*, the part devoted to notices of local medical affairs—were more thoroughly worked up and considerably extended, so as to embrace not only matters connected with Glasgow, but also medical news from the West of Scotland generally. Another proposal, which was very carefully discussed, was whether Editorial Leading Articles dealing with medical politics and other controversial subjects should form a part of the contents. After the most mature deliberation, the general feeling expressed was that the latter plan was beyond the scope of a monthly periodical, and practically unworkable in a journal appearing at such long intervals. In accordance with the almost unanimous opinion of the different meetings, the Editors have resolved to increase the space allotted to "Current Topics," and also to interest if possible, medical men outside of Glasgow in this department of the work. With this object in view, a number of gentlemen, residing in the larger towns around Glasgow, have been asked to become correspondents, and we are glad to be able to say that all of them have willingly agreed to undertake the work. In the city, too, gentlemen connected with the Royal Infirmary, Anderson's College, the Western Medical School, the University, &c., have also agreed to supply items of news from these institutions. In order to obtain greater space for the Current Topics, it has been resolved to put the Abstracts of Current Medical Literature into smaller type. The Editors are therefore hopeful that the interest of the *Journal* may in this way be very greatly increased, and they would also intimate that, although several gentlemen have undertaken the more special work of correspondents, they will always be glad to receive items of news suitable for this department from any member of the profession.

**ARRANGEMENTS FOR MEDICAL ELECTRICITY IN THE GLASGOW ROYAL INFIRMARY.**—For some time past the apparatus necessary for electro-therapeutics and diagnosis has been collected and arranged in a room in the centre of the hospital for the convenience of the clinical teachers. Upon the whole the arrangements are very complete and the hospital is well furnished with constant, Faradic, and static currents. The main source of the constant currents consists of bichromate and Leclanché cells of great electro-motive force, suitable for diagnosis or treatment. Special arrangements are introduced for placing one or more or any of the cells in the circuit. The table to which the wires are led has slow

interrupter—Hirschman's galvanometer and rheostat—attached to it. An excellent coil, with primary and secondary currents, applicable for slow or quick beats is also in use. The terminals are so arranged that the constant and interrupted currents can be given with the same electrodes or both forms simultaneously. For surgical purposes secondary batteries have been fitted up for the galvano-cautery or écraseur with the necessary rheostats. Needles for electrolysis, bougies for stricture of the urethra, and Erb's standard electrodes form part of the appliances. Patients, dispensary and other, who can be taken to the room, are all treated in it, but to supply the needs of those who cannot be brought, all or part of the apparatus can immediately be transferred to a ward by means of a portable table specially arranged for the purpose. But it is further purposed shortly to lead wires to the different wards. The apparatus has been bought, partly on the Continent and the rest at home, and the fittings were completed by Mr. White, optician, Glasgow. Dr. Macintyre selected and arranged the things as they are now fitted up, and within the past year has tested the apparatus, surgical and medical, in operations, diagnosis, and treatment. The room can also be darkened, and the electro-laryngoscope and similar instruments for the illumination of the cavities of the body can thereby be used efficiently.

**THE ABUSE OF MEDICAL CHARITIES.**—During the past few weeks an interesting correspondence on the above subject has been going on in the columns of the *Glasgow Herald*; and in the *British Medical Journal* for the 18th ult. there was a long leading article on this important question. The subject is one which, from time to time, has been much and warmly discussed; but in the present instance the grievances have been resuscitated by Dr. Erskine's paper in our issue for November, 1886. The general opinion seems to be that there is serious need for reform in the mode of distributing medical charity—on the part of the profession as well as on that of the public. It is unnecessary under the circumstances to refer to the matter at greater length, and we would simply express a hope that this direction of public attention to the subject may result in several much to be desired reforms.

**DISASTER AT CRARAE QUARRY.**—The report by Colonel Ford, H.M. Inspector of Explosives, on the recent disaster at Crarae Quarry, was issued last month, and lengthy extracts were published by the daily press.

The report is exhaustive and exceedingly interesting. The various gases which result from the firing of gunpowder are carefully considered, and their action on persons breathing them is detailed. Colonel Ford considers that the mischief was in all probability caused by the carbonic oxide, which exists in the proportion of 3·6 per cent (considering 100 lbs. of gunpowder when exploded to result in 43·5 lbs. of gases and 56·5 lbs. of solid residue), as a very small proportion of that gas in the presence of carbonic anhydride, present in proportion of 27·5 per cent, renders the air fatal. The poisonous effect was no doubt further enhanced by the hydro-sulphuric acid present in proportion of 1 per cent. One very interesting part of the report is the Colonel's explanation of the delayed fatal action of those gases in this case. The explosion had occurred half an hour previously, and in that interval many visitors had collected in the quarry when suddenly the influence of the poisonous gases was felt in all parts simultaneously.

The charge had been proportioned merely to break up the rock, and not to project it to any distance. The resultant gases were thus retained for the most part in the interstices of the fallen rock, and being in contact with the rock cooled rapidly, and as their volume contracted more gases from the basin of the quarry passed into the interstices. After a further lapse of time, the gases in the interstices, having cooled down to the ordinary air temperature, began to flow out into the quarry basin, and, as their specific gravity was then more than one and a quarter that of ordinary air, they tended to occupy the lowest level. As soon as the proportion of the gases in the atmosphere at the lowest level was sufficient to render it poisonous the visitors began to fall.

No *post-mortem* examination was made, but, as indicating the condition of the blood of the victims, it is stated that at least in one case it remained so liquid as to flow through the coffin in which the deceased was placed.

By the accident five lives were lost, among them being several prominent citizens; and one or two medical men present narrowly escaped a like fate.

**KILMARNOCK INFIRMARY.**—The 18th annual report of the Kilmarnock Infirmary, recently issued, shows that the year just ended has been in some respects an eventful one in the history of the institution. Dr. Borland, who has been in full charge of the hospital since its foundation, has been compelled by advancing age to retire from active duty. The venerable surgeon's name will be for ever associated with that of the In-

firmary. His connection with it has been of infinite credit to himself, and of great benefit to the district in which he lives, and we are sure that the good wishes of all who know him accompany him into a retirement earned by more than half a century's hard work in behalf of suffering humanity. The re-arrangements of duty consequent on this event have consisted in the separation of the medical and surgical work by the appointment of two physicians, Drs. Macfarlane and M'Vail, and two surgeons, Drs. M'Alister, sen., and Macleod. We observe that the prevailing impecuniosity of hospitals threatens Kilmarnock. Patients are increasing more rapidly than funds, and the directors are appealing to the public for increased support. The general goodwill of the community towards the institution is evidenced by the fact that, in addition to subscriptions, over two hundred gifts, of the most varied character, have come in during the year, including an ambulance wagon and a donation of £20 for the library. The total cases admitted in the twelve months were 462, of which 232 were in the surgical, 199 in the medical, and 31 in the fever wards.

THE GLASGOW ROYAL INFIRMARY MEDICO-CHIRURGICAL SOCIETY held the Annual Dinner in the Alexandra Hotel, on Friday, the 17th ult. Dr. J. Wallace Anderson, Hon. President, occupied the chair, and Dr. Thorpe and Mr. Geo. Clark acted as croupiers. There was a large attendance of the Lecturers, Hospital Staff, and Students, and a most enjoyable evening was spent. When replying to the toast of "The Lecturers," Dr. Milne referred to the satisfactory condition of the School, and stated that he had the best class in point of numbers and work which he had ever taught. The President, Mr. Geo. Clark, intimated that as nearly all the Students attending the School were members of the Society, the membership was unusually large this session.

THE ANNUAL DINNER OF ANDERSON'S COLLEGE MEDICAL SOCIETY was held in the Bath Hotel, on the evening of Thursday, 9th December last. Professor Gemmell, Honorary President, occupied the chair, and in his address referred to the very satisfactory condition of the College this year. In point of numbers the dinner was the most successful held in connection with the Society for a number of years. Several of the after dinner speakers touched upon the question of extra-mural teaching, and the general feeling was strongly in favour of it. In proposing the toast of "Kindred Societies,"

Dr. Stark referred to the forthcoming meeting of the three Medical Students' Societies of the city in February next, which he thought was a step in the right direction.

**GLASGOW SICK POOR AND PRIVATE NURSING ASSOCIATION.**—The Eleventh Annual Meeting of this Association was held on Friday, 24th December last, under the presidency of Mr. J. G. A. Baird, M.P. The report of the Council of the Association stated that the demands on the institution greatly exceeded the means at the disposal of the council, and that there was urgent need for the enlarged liberality of the public. A resolution commending the Association to the support of the public, was adopted. We hope that this most deserving Association will receive that cordial public support which it so much requires, and we are sure that very many of our readers can testify to the good work which the district nurses are doing amongst the sick poor of Glasgow.

**PRESENTATION TO DR. JOSEPH BELL.**—On Monday afternoon, the 22nd December last, a deputation of nurses from Edinburgh Royal Infirmary waited on Dr. Joseph Bell, at his house, 2 Melville Crescent, and presented him with a handsome oak writing table and chair, and a valuable silver candelabra, subscribed for by nurses in the Institution, and also by nurses now in other places in Edinburgh and abroad, who were trained under Dr. Bell. The occasion of the presentation was the recent retirement of Dr. Bell, according to the rules of the Infirmary, after fifteen years' service on the surgical staff.

**COMPLIMENTARY SUPPER.**—The gentlemen who acted as Dr. James Morton's Committee during the late General Medical Council election in Scotland, entertained that gentleman to supper in the Royal Hotel on the evening of the 17th ult. About forty gentlemen were present, and in the course of the evening the guest was presented with a highly complimentary illuminated address. Dr. James Dunlop acted as chairman, and Dr. John Pirie as croupier.

**STUDENTS' CONCERT AT THE ROYAL INFIRMARY.**—Encouraged by the successful result of their efforts last year, the Students of the Royal Infirmary gave another most enjoyable Concert in the Dispensary Hall, on Friday, the 18th ult. Mr. Brown, Chairman of the Directors, who occupied the chair, announced that over twelve pounds had been collected for the benefit of the patients.

**COLLECTIVE INVESTIGATION.**—The only inquiries at present before the profession are those on Hamamelis and Terebene, and on the Etiology of Phthisis. As a full report on the two former is to be presented to the annual meeting of the British Medical Association in August, those desirous of recording their experience with those drugs can have inquiry forms on application to the Hon. Local Secretary, Dr. Walker Downie, 7 Sandyford Place, Glasgow.

**LAYING IN SUPPLIES.**—We were recently shown a prescription, written by one of the staff of a well known dispensary, which, from disproportion of dose and quantity prescribed, seems unusual. “R. Syr. Easton: 3*iii.* Sig. 3 drops a dose 3 times a day.” The quantity thus contains 480 doses, and as the 3 drops are repeated 3 times a day, the child will take 160 days, or, in other words, 5 months and 9 days from date of prescription, to consume the quantity prescribed at first consultation!

**THE CHILDREN OF THE CITY.—WHAT CAN WE DO FOR THEM?**—A very important lecture on this subject was delivered to the Edinburgh Health Society on Saturday, 18th December last, by our sanitary officer, Dr. J. B. Russell. The lecture was fully reported in the daily papers, and it is well worthy the careful attention and perusal of all our readers.

**FACTORY APPOINTMENT.**—The vacancy in the office of Certifying Factory Surgeon, caused by the death of Dr. Ebenezer Watson, has been filled by the appointment of Dr. Robert Brown of Pollokshields.

**SOME NEW PREPARATIONS.**—To those of our readers who are in the habit of using nitro-glycerine we can recommend the compressed tabloids manufactured by the firm of Burroughs, Wellcome, & Co. In order to avoid any feeling of danger on the part of ignorant patients, the term trinitrine has been used instead of the too familiar one of nitro-glycerine. The compressed tabloids are issued in three forms—namely (1), Simple trinitrine; (2), this agent,  $\frac{1}{10}$  gr., combined with nitrate of amyl,  $\frac{1}{4}$  gr.; and (3), these two agents in the same proportion, with capsicum and menthol each  $\frac{1}{50}$  gr.

Messrs. Lorimer & Co. are now preparing a syrup of the hypophosphites which commends itself to the practitioner. It contains the hypophosphites of lime, sodium, potassium, iron, manganese, quinine, and strychnia in due proportions, and in a very palatable form. It may be recommended for trial as a wholesome and efficient preparation.

## REVIEWS.

*Practical Pathology: An Introduction to the Practical Study of Morbid Anatomy and Histology.* By JOHN LINDSAY STEVEN, M.D. Glasgow: James Maclehose & Sons.

THE appearance of several new manuals on Practical Pathology may be taken as a gratifying sign that practical pathology is beginning to take a more prominent place in the curriculum of our medical students. The manual before us is based upon the practical course of instruction on Morbid Histology given by Dr. Coats; but it contains much more than that. We have here a very clearly written and concise account of the method of performing a *post-mortem* examination. The author adopts more the German system of *post-mortem* examinations, which presents many advantages over that still practised in many of the English *post-mortem* rooms. This part of the book recommends itself particularly to the general practitioner who so often is called upon, in England at least, to perform medico-legal *post-mortems*; and would be still more useful if the author would have treated the subject a little more from that point of view.

The second part of Dr. Steven's manual treats of Practical Pathological Anatomy and Histology, and is especially adapted for students, to enable them to study for themselves the several chapters of general pathology and special pathological anatomy. Accurate and concise directions are given for cutting, staining, and mounting sections of tissue, and organs and micro-organisms come in for their proper share. Here, again, we think that the usefulness of the book would be increased if the author had included a chapter on clinical microscopy. We notice, however, that the examination of organisms in fluids and the staining of tubercle bacilli in sputum are as fully treated as a manual will permit. The chapter on Diseases of the Nervous System is especially good, and contains a full and precise account of Weigert's method of staining.

The whole book is eminently practical, as one would expect from one who has worked under Weigert, and assisted for a number of years Dr. Coats in the practical instruction on Morbid Anatomy. It will be found a very useful book, not only by students, but also by practitioners who wish to become practically acquainted with the different modern methods of microscopic research.—JULIUS DRESCHFELD.

*Congrès Périodique International des Sciences Médicales.*  
8<sup>me</sup> Session. Copenhague. 1884. Compte-Rendu Publié  
au nom du Bureau. Par. C. LANGE, Secrétaire-Général.  
Copenhague: Librairie Gyldendal. 1886.

THE editor in his preface apologises for the late appearance of these volumes, chiefly on the plea that on account of the distance of many of the contributors and the difficulty of deciphering manuscripts often in foreign languages much delay was occasioned. He was also seriously hindered by the lamented deaths of Professor Panum, President of the Congress, and of Dr. Salomon, President of the section of military medicine.

We have before us four bulky volumes, which form almost an encyclopædia of all departments of medicine and the allied sciences. French, German, and English being recognised as the official languages, the papers and discussions are in one or other of these. It is impossible to give anything approaching to an idea of the contents of the volumes, but we are able to say, from perusal of many of the papers, that many of the best workers in medicine are represented, and that the editor has done his work with great credit, although there are a good many misprints arising obviously from the printers being of a different language from the speakers.

It appears in these transactions that the congress got through an enormous amount of good work, and we are very pleased to recognise that a substantial addition is made by these volumes to the scientific material of the profession.

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*Lays of the Colleges: Being a Collection of Songs and Verses.*  
By MEMBERS OF THE AËSCULAPIAN, MEDICO-CHIRURGICAL,  
AND OTHER PROFESSIONAL CLUBS IN EDINBURGH. Edinburgh:  
Maclachlan & Stewart. 1886.

IT is surely singular that, although our greatest Scottish poet was an Ayrshireman, and although we have a whole townful of poets, as it is said, in Paisley, yet that the profession in Glasgow and the West of Scotland has been so much behind that of Edinburgh in the production of verses, whether facetious or serious. It is well known that the convivial meetings of medical men in Edinburgh are usually enlivened by original songs, composed and sung by the members, but we have never heard of anything of the kind in Glasgow. Verses of this kind have before now found permanent record in

published volumes, as witness the *Nugæ Canoræ Medicæ*, published in 1873 by Sir Douglas Maclagan.

The volume before us puts in a permanent form the productions of no less than twelve medical poets in the auld toon, who have contributed about eighty songs or poems to the collection. The largest contributors are Dr. Jas. D. Gillespie and Dr. John Smith, but Dr. Andrew Wood and Sir Douglas Maclagan are also well represented. In glancing over the titles one is attracted by the frequency with which the lady doctors come in for a fling. One of the best of these, by Dr. John Smith, will give our readers a taste of the book :—

### THE MEDICAL MAID.

*Air*—“Green grow the Rashes, O !”

As I gaed owre tae meet my class,  
A winsome quean cam' after me.  
Quo' she, “Sir, wad ye gi'e a lass  
Prelections on Anatomy ?”  
I speired was there nae wark at hame  
Micht suit her mair becomingly,  
For delvin' in a corpse's wame  
Was neither sweet nor womanly.

But deil may care, she said her sphere  
Was not domestic drudgery ;  
An' threapit that her mission here  
Was medicine an' surgery ;  
Nae langer she'd her cawnle hide,  
Anaeth a bushel, scomfishin',  
Since woman noo wi' rapid stride  
Her function was accomplishin'.

Afore her powers o' speech I fell,  
She fairly got command o' me,  
I felt I wasna just mysel'  
An' she'd the upper hand o' me.  
Wi' smile sae sweet, an' words sae fair,  
She made I watna what o' me.  
Says I, “My woman, fleech nae mair ;  
I'll drill ye in Anatomy.”

I thocht I did but what was richt,  
Tae treat her wae urbanity ;  
My state, hooever, since that nicht  
Has bordered on insanity.

I'm clean dumfounded what to say,  
 What parts to gi'e, whaur she's to be ;  
 For decency I think I'll ha'e  
 Her demonstrations privately.

My best *cadaver* she at ance  
 Bespoke in its integrity ;  
 It was a male : I couldna but  
 Admire her intrepidity ;  
 When I suggested something mair  
 Consistent wi' propriety,  
 At ance she said she wadna be  
 Restricket in variety.

Frae day till day I've thocht the jade  
 Wad drive the senses oot o' me,  
 Wi' speirin' whiles aboot sic things  
 As did pit me aboot a wee ;  
 An' aye she'd houp I'd not forget,  
 Wi' want o' generosity,  
 'Twas science set her there, and not  
 A morbid curiosity.

My words oot o' respect for her  
 I've trimmed wi' ingenuity ;  
 At ance she said my language was  
 Devoid o' perspicuity.  
 She disna gi'e a single flea  
 For feminine timidity,  
 Demandin' baith tae hear an' see  
 The plain facts wi' lucidity.

It's no mysel' alane she skeers  
 Frae speakin' wi' obscurity,  
 Ilk bashfu' lecturer she hears,  
 Taks refuge in obscurity ;  
 Oor houdies a' she pits till shame,  
 For wi' superiority,  
 It speaks aboot the female frame  
 On sic direct authority.

Ilk jurisprudence lecturer  
 Complains o' his predicament,  
 He canna thole tae speak till her  
 On horrors that suld mak' her faint.  
 Its kittle no tae feel confused,  
 Or tell her wi' facility,  
 O' things that micht mak her amazed,  
 If that's a possibility.

The surgical professors say  
 It wad be sae incongruous  
 O' certain ills to speak, that they  
 Maun modify their syllabus.  
 A class o' matrons they nicht face,  
 O' strict respectability,  
 But frisky kimmers in the place  
 Tells on their equanimity.

The folk outside bid us gi'e in  
 Syn' we're in the minority,  
 They haud oor case no worth a prin,  
 An' her's tae hae priority.  
 I was a gowk tae tak her in,  
 For now she'll no gang oot again,  
 Man's first mishap cam' by a lass,—  
 My days hae been cut short by ane.

J. S.

We have only to add that the verses are frequently illustrated by clever little cuts, and to advise our readers to purchase a copy.

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## MEETINGS OF SOCIETIES.

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### MEDICO-CHIRURGICAL SOCIETY.

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SESSION 1885-86.

MEETING VIII.—7TH MAY, 1886.

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*The President, DR. MACLEOD, in the Chair.*

DR. GAIRDNER read OBSERVATIONS ON CASES OF ANEURISM, showing illustrative preparations from the Museums of the Royal and the Western Infirmarys.

The object of this communication, which can only at present be submitted in a brief abstract, was to bring into view at once a very considerable number of preparations in the Museums of the Western and Royal Infirmarys respectively, and therewith to connect a clinical commentary illustrative of some of the experience connected with the cases referred to, and with others in Professor Gairdner's practice during the last twenty-four years, since the publication of his *Clinical*

*Medicine* in 1862. The preparations in the Western Infirmary Museum have been indicated in the printed catalogue with a peculiarly careful regard to clinical details, and form a series well worthy of study on this account; those from the Royal Infirmary, and a very few in both museums of cases not under Dr. Gairdner's care, were used mainly as supplementary illustrations of particular points adverted to. The author referred in the first instance to the *aetiology* of aneurism, and showed that most of the anatomical varieties of the disease tended to illustrate similar modes of origin. Remarks were made, and cases referred to, tending to show the importance of strain or concussion as a factor in the production of aneurism, and also showing that a comparatively small amount of violence—not such as to produce any other kind of injury—might easily lay the foundation of an aneurism when the coats of the vessel had previously had their resistance impaired by disease. He then passed to the diagnosis, showing what conditions were necessary in order that an aneurism should present any symptoms or physical signs at all; absolute latency, as regards these, being in all probability not uncommon. But, even in the absence of physical signs, and with symptoms that are not quite distinctive or characteristic, it is sometimes possible to make a correct diagnosis, or at least a well founded attempt at such, by taking into account anomalous *combinations* of symptoms, and especially pains, &c., not otherwise explained, when occurring under circumstances of age, sex, occupation, &c., predisposing to aneurism; or in actual states of the constitution known to constitute such predisposition. Attention to such details is especially important in the early stages, in which, although diagnosis can often be nothing more than a kind of what has been called "happy guessing," it is of the greatest importance as giving a basis to treatment with some hope of success. Dr. Gairdner therefore enumerated a number of diseases which, from actual experience, might be shown to be simulated by aneurisms in the thorax, and he gave numerous clinical illustrations bearing on this part of the subject. A truly physiological diagnosis of this kind is, moreover, not only significant as to the *fact* of an aneurism underlying the various symptoms, but in many cases gives, even in the absence of, or with a doubtful significance of, the physical signs, a tolerably accurate estimate of the position and anatomical surroundings of the aneurismal tumour. In this part of his communication, Dr. Gairdner referred to the clinical data in his own work on *Clinical*

*Medicine*, 1862, and the subsequently published anatomical, as well as clinical, collective facts published in a tabular form in the late Dr. Sibson's *Medical Anatomy*, as mutually corroborative, and confirmatory of certain general principles as to the symptomatology of aneurism, according as it arises from one or from another part of the arch. In further illustration of this, numerous preparations were shown which may be thus roughly classified:—1. Aneurisms of the sinuses of Valsalva and of the first part of the ascending aorta. These are apt to cause, in a preponderating degree, hypertrophy and dilatation of the heart with all their sequelæ; valvular murmurs (most frequently aortic), both of obstruction and regurgitation; symptoms closely resembling angina pectoris; in some cases sudden cyanosis, by interference with the pulmonary artery or right side of the heart; in other cases, sudden death from rupture into the pericardium. 2. Aneurisms of the ascending part of the arch, but not so close to the heart. It is in this position exclusively, or chiefly, that a tumour of considerable size may form, and may come to the surface so as to give rise to abnormal pulsation, &c., without implicating any internal function or organ; and manifested only, if at all, by pain. Sometimes, however, there is interference with the right radial pulse; more rarely with the venous return through the innominate vein. 3. Aneurisms of the ascending or transverse arch, chiefly on its posterior and inferior aspect. This involves usually numerous pressure signs, which Dr. Gairdner analysed in detail and illustrated by cases. 4. Aneurisms of the descending portion of the arch or aorta. The chief functional interference here is with the left bronchus and the pulmonary plexus of nerves distributed over it; sometimes also with the pneumo-gastric trunk or its branches, and occasionally with the oesophagus. 5. Abdominal aneurism, characterised almost always by severe pain, and by a great variety of symptoms otherwise. Attention was given, in conclusion, to the prognosis and treatment of aneurism, in so far as illustrated by these specimens. A spontaneous cure was observed in one instance; but, unfortunately the patient was dying of another disease (a peculiar form of phthisis), and the staying of the progress of the aneurism (under iodide of potassium), although it put an end to certain symptoms, was of no permanent advantage. Iodide of potassium, however, was, in Dr. Gairdner's opinion, a real remedy, of high value in the majority of cases, even when it did not cure the disease. Rest, also, within certain limits, was a really curative agency, and the only question was how

long, or within what limits, consistently with the good of the patient, it could be advised or persevered in. In reference to Tuffnell's method of very restricted diet and drink, Dr. Gairdner gave a very qualified opinion. In reference to galvano-puncture, he had made very careful trials of this method repeatedly employed in three several cases of advanced and threatening aneurismal tumour projecting forwards into the chest and neck. Dr. Gairdner admitted that these experiments were not, perhaps, altogether in the most favourable conditions for the remedy, but at least they were conducted with the most scrupulous care as to details of procedure, and with the strongest possible desire to obtain the maximum of good attainable. In each of the three cases, however, the influence, so far as it could be appreciated, was distinctly adverse; and in all of them the cases recorded and the preparations had left an impression so unfavourable, that Dr. Gairdner declared he should never again advise galvano-puncture in aneurism. A few remarks upon cardiac sedatives and other remedies incidentally used concluded the communication.

*Dr. Hugh Thomson* said that, referring to the case in which the heart had been torn from its moorings by an accident which left no external mark, he had seen a case of an opposite kind, in which the body of a child about two years of age was passed over by the wheel of a loaded waggon of two tons weight, with no bad effects except a little shock, and an ecchymosed mark showing where the wheel had passed.

*Dr. Workman* said that, in reference to the local treatment of aneurism, the introduction of other bodies than those used in the galvanic treatment had been tried. Had Dr. Gairdner any experience of these?

*Dr. Middleton* said that he had at present a case which Dr. Gairdner knew of, in which Tuffnell's treatment had been fairly tried for a couple of months. Instead of any improvement, the aneurism was getting steadily larger, and the case would, to all appearance, have a fatal termination. In that case veratrum viride was tried before the Tuffnell treatment began, with, it was thought, a beneficial effect in slowing the pulse. The effect of the drug was, however, more clearly tested while the patient was under the Tuffnell treatment by observations made very frequently during the day, with the result of showing that it had no effect at all. The presumption therefrom was that the benefit credited to it in the anterior treatment was not due to it.

*Dr. Wood Smith* said that he had a case in which he had

twice punctured an aneurism very near the heart, and certainly with marked relief to the symptoms. He coincided with Dr. Gairdner in regard to the benefits from iodide of potassium.

*Dr. Johnston Macfie* said in his student days in Edinburgh a gentleman instituted a series of experiments on the dead body with a view to ascertain the different degrees of force which would be required to rupture parts of the living body. That gentleman did not take into account that the conditions in the living body—as regards, for example, fluidity of the blood—totally differed from those in the dead subject. The occurrence of a case in India in which a rupture of an enlarged liver took place following the blow of a cane (which would have been insufficient to produce a similar rupture in the dead liver) brought home to the mind of the experimenter that the effects of injuries on the living body could not be judged of by experiments on the dead body. These remarks had reference to Dr. Gairdner's very interesting observations on the effects of concussion in the blood-vessels, and its result on the production of aneurism.

*Dr. Perry* said that, with the general conclusions of Dr. Gairdner he agreed. However, he would not lay stress on his argument that the cases in which galvano-puncture was used, being the only ones in his practice in which the aneurism came to the surface and then burst, therefore galvano-puncture was injurious. He had himself seen four cases in which the aneurism burst externally, not one of which had been galvano-punctured. Tuffnell's treatment he had tried, without much benefit. He had now given it up as a mode of treatment *per se*, though he still adhered to some extent to a restricted diet, and enforced the necessity of rest.

*Dr. M'Vail* said that very few, if any, physicians in this country could have produced a paper so replete with the results of a long and varied experience as that to which they had just listened. In his view, his conclusions were indisputable. In reference to aneurism, Dr. Gairdner had alluded to the fact that one of the conditions tending towards the production was an atheromatous and hardened state of the arteries; and the very same pathological condition also was associated with pulmonary emphysema. Now, in his experience of thoracic aneurism he had never found pulmonary emphysema present in any marked degree; and yet he had scarcely ever found pulmonary emphysema present without the co-existence of general arterial degeneration. Why, then, was it that while arterial degeneration was closely

connected both with aneurism and emphysema, that these two last affections were not generally, in any considerable development, found together? In his opinion, this was to be explained by the diminution of pulmonary elasticity in emphysema, by which the lungs relatively to the thoracic cavity became enlarged, and gave a support from without to the aorta and its branches, in so far as these were within the thorax. Under ordinary circumstances the lungs tended to shrink within the thorax to still smaller dimensions than even the deepest expiration allowed them to do, and therefore, so far from giving any support to the distended aorta, necessarily added to its tension. In inspiration the balance of intra-thoracic pressure was disturbed, and the increased space was occupied by air owing to the always present atmospheric pressure of 15 lbs. to the square inch, but the atmosphere also pressing always on the surface of the body, necessarily, through its pressure on the extra-thoracic vessels, increased the tension of the intra-thoracic aorta during inspiration, and that in direct proportion to the depth of the inspiration. Thus the inspiration act was a factor in the distension of the aorta through the 15 lbs. of atmospheric pressure. But where considerable emphysema existed, with enlarged lungs encroaching everywhere within the thorax, there must be less increase of aortic distension than when emphysema was absent. Not only did this appear to him the most reasonable explanation why thoracic aneurism and pulmonary emphysema had not been found to reach a great development in co-existence, but it afforded an indication for treatment—viz., when practicable to restrain thoracic movement in the region of the aneurism. In galvano-puncture he had no faith, and he was glad to find Dr. Gairdner on this point to be in accord with him.

*Dr. Dun* said that Dr. Gairdner had referred to the production of aneurism from the effects of strain acting on diseased vessels. It was a question of medico-legal interest whether it were possible that a slight injury might be the starting point of aneurism in a previously healthy person. In one case a man was struck on the back by a brick, and subsequently an aneurism of the abdominal aorta was set up. No other cause of a traumatic kind could be suggested. Were the two things related as cause and effect? Dr. Gairdner's enumeration of diseases, for which aneurism had been diagnosed, was exceedingly valuable. The danger of taking it for phthisis, when there was a cough, dulness of limited area, in the upper part of the chest and haemoptysis, was particularly great.

He had seen galvano-puncture tried, but no case in which it had proved efficacious. Was it not possible that in cases in which it did good, the virtue lay not in galvano-puncture as such, but in the introduction of a foreign body?

*Dr. Alexander* said that he had seen two cases of galvano-puncture in the Western Infirmary, in both of which it appeared to hasten the rupture. In both cases there was extravasation of blood in the skin. In another case, of Dr. M'Call Anderson, the galvano-puncture gave rise to alarming symptoms at the outset; but the aneurism became almost consolidated. The patient left the hospital, and in two years aneurism returned, and the man died of its bursting.

*Dr. Thomas* said that Dr. John Duncan, who had introduced galvano-puncture, had been brought by Dr. M'Gregor, of Barnhill, to operate in a case in that hospital. But the case was unsuitable. But in the hands of Dr. M'Call Anderson he had seen a good deal of good from its use. In one case, a woman got much better, left the hospital, and returned to her work. She came back in 21 months, and afterwards died of the affection. In another case, there was much bleeding, from which the patient died; but he noticed that the skin was slightly yellow. It might be that the jaundiced condition of the skin prevented coagulation. Foreign bodies have been introduced; but the practice can scarcely be said to have survived.

*Dr. Lindsay Steven* said that it was with diffidence that he differed from the very decided opinion which Dr. Gairdner had expressed in regard to the use of galvano-puncture. He had personally seen most of the cases which Dr. M'Call Anderson had operated on in hospital, in some cases having also had the opportunity of assisting him in private practice; and he had come to entertain a favourable opinion of the treatment. On Dr. Gairdner's own showing, the cases in which the treatment had been used at his instance were unsuitable, from their being too far advanced, the danger of death being imminent. But in carefully selected cases, where the tumour was not large, and had not existed long, they could not do much harm by electro-puncture, and might do a great deal of good. With regard to haemorrhage, at the time of the operation he had seen no danger from this source, though on the needle being withdrawn there might be a little blood at the wound. Recently, in the dispensary of the Royal Infirmary, he had seen one case in which he would have recommended galvano-puncture. The mistake made usually was in deferring the operation till it could do no good.

*The President* said that in surgical practice they were constantly seeing the effects of strain on arteries, the popliteal and the common femoral being specially exposed to the injurious results. Within the last few years the fact of the production, by strain, of external aneurisms had been worked out with great care. A typical case had been related many years ago by Syme. The man, whose arteries had undergone atheromatous changes, put up his hand suddenly to prevent his hat flying off. At the same moment he felt something give way in the arm-pit, and the result was the development of a large aneurism. The late Dr. Mackinlay, of Paisley, had many years ago read a paper at that Society on injuries to the various organs by blows where there was no external evidence of injury. To his students he was constantly reiterating the caution to avoid giving the name of neuralgia or rheumatism to conditions which were to them obscure, and that it would have almost been better that the terms had not been invented. Pressure effects were most valuable guides to them in diagnosis, and to interpret them a thorough knowledge of the distribution of the nerves should be inculcated in students. He was glad to hear that Dr. Gairdner still spoke well of the treatment by iodide of potassium, as he had been inclined to place it among the failures. The doses should be large. It had even been given in ounce doses without harm, and in sixty grain doses for days without harm. In syphilis he would give from 20 to 40 grains in a bad case. In regard to the spontaneous cure of aneurism, he had once a striking case. The man was an old soldier, steeped in syphilis, and very drunken. He had severe aneurisms in different parts of his body. After being in the hospital for some time, he left, being unable to submit to the cessation of stimulants. When out, one of the aneurisms in his thigh burst, and he was brought back to the hospital collapsed and pale. He was seen by several of his colleagues, who had pronounced the case hopeless. The man wanted him to amputate his thigh, which he declined, till, in desperation, the man said that if he did not cut off his leg he would do so himself. He amputated between two aneurisms, having barely space for the operation. To his astonishment the ligature held, the man got better, and strange to say, every one of the aneurisms disappeared. Was he, therefore, not warranted in saying that a cure for aneurism was to amputate the thigh at its middle? He had seen a fatal result in the hands of a surgeon now dead, who attempted to force a tube for stricture of the oesophagus. The stricture had been caused by an aneurism of the arch

pressing on the oesophagus. The man fell down dead, the operator being covered with blood from the ruptured aneurism. Tracheotomy could be of use only in a very limited number of cases. In the majority of cases the aneurism did not press on the recurrent nerve; but when it did, this operation was perfectly legitimate. Tuffnell was a man who was absolutely reliable in what he stated, though his method had scarcely been so successful in other hands. In America *veratrum viride* was looked on as *the* remedy in aneurism. In regard to foreign bodies the latest thing of the kind was watch-springs. It had been observed that when wires were introduced, the clots were formed from the oxidation of the iron, and this suggested the employment for the purpose of soft watch-springs. Needles were not only introduced, but left in for days—ten or twelve of them, so as to form points of coagulation. The result had been good. He had seen several of Dr. M'Call Anderson's cases in the Western Infirmary. In one case of aneurism of the carotid, so placed that he had not room to ligature the vessel, the galvano-puncture was used. After a time the tumour ceased to beat, and the woman left much improved. Unfortunately he had been unable to trace her subsequently.

Dr. Gairdner was glad that the paper had elicited discussion on so many points. It would be difficult to answer Dr. Dun's question in regard to the possibility of a slight injury in a healthy person setting up aneurism. An artery, the inner coat of which was ruptured, had the power of spontaneous restoration, though, owing to the action of the blood, it could do so only at a disadvantage. They had an analogous case in the stomach which undoubtedly did heal, even under difficulties. In regard to Dr. Steven's remarks, he admitted it was true that the cases were not suitable in his sense; but in his view the risk from electro-puncture was so great that only as a last resource would he have recourse to the treatment; and from what he had seen of it in these cases, in which it not only did no good, but absolute harm, it would be wrong in him to do what it might be perfectly right in Dr. Steven to do—to put faith in the operation in the future, or to recommend it to others. At the present moment he had under his care a case which, had he not his previous experience, he might have subjected to the treatment. But with that before him, and the conviction that it hastened the end, he could not do so. The very interesting remarks of Dr. M'Vail raised up too many difficult questions in pathology to be properly discussed on the present occasion.

## SESSION 1886-87.

## MEETING I.—1ST OCTOBER, 1886.

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*The President, DR. MACLEOD, in the Chair.*

DR. HUGH THOMSON read a paper on "INOCULATION AND VACCINATION," part of which appears at p. 7, and part will appear in a future issue.

He also showed in a side-room a number of CASES OF VACCINIA amongst the children vaccinated at the Faculty Hall station, and made some remarks on various points in connection therewith.

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## EXTRA MEETING.—8TH OCTOBER, 1886.

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*The President, DR. MACLEOD, in the Chair.*

AT this meeting it was agreed, after full discussion, that the Society should be reconstituted in four Sections—(1.) A Medical Section ; (2.) a Surgical Section ; (3.) an Obstetrical Section ; (4.) a Pathological Section ; each Section to have a Vice-President, a Secretary, and two Councillors ; that there should be a President, a Treasurer, and two Secretaries to the Society as a whole ; and that these office-bearers should constitute the Council of the Society.

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## MEETING II.—15th OCTOBER, 1886.

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*DR. LAPRAIK in the Chair.*

AT this adjourned meeting the following office-bearers were elected :—

*President—DR. GEO. H. B. MACLEOD.*

*General Secretaries—DRS. J. WALLACE ANDERSON and W. G. DUN.*

*Treasurer—DR. HUGH THOMSON.*

**MEDICAL SECTION.**

*Vice-President—DR. D. C. M'VAIL.*

*Councillors—DRS. T. BROWN HENDERSON and R. PERRY.*

*Secretary—DR. GEO. S. MIDDLETON.*

**SURGICAL SECTION.**

*Vice-President*—DR. A. PATTERSON.  
*Councillors*—DR. MACEWEN and MR. MAYLARD.  
*Secretary*—DR. BARLOW.

**OBSTETRICAL SECTION.**

*Vice-President*—DR. STIRTON.  
*Councillors*—DR. RENFREW and MR. E. M' MILLAN.  
*Secretary*—DR. T. F. GILMOUR.

**PATHOLOGICAL SECTION.**

*Vice-President*—DR. JOSEPH COATS.  
*Councillors*—DRS. T. K. DALZELL and A. ROBERTSON.  
*Secretary*—DR. J. LINDSAY STEVEN.

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**MEETING III.—5TH NOVEMBER, 1886.**

*The President, DR. MACLEOD, in the Chair.*

THE President said that his first duty was to thank the Society for the honour which they had done him in re-electing him President of the Society for a third term. When the proposal was first made to him he was considerably embarrassed as to whether he ought to accept of the office, in view of such an appointment involving a violation of a law of the Society before its late transformation. It was only when it was urged upon him that, having taken an active interest in the proceedings leading to the Society being constituted on a new basis, there was a kind of obligation laid upon him to see the new constitution fairly launched before severing his official connection with the Society.

DR. ALEXANDER PATTERSON read on DISLOCATION OF THE WRIST. (See page 18.)

DR. PATTERSON also read on THE SIAMESE TWINS. (See page 19.)

DR. FLEMING showed a modified form of URETHROTOME which, while not presenting many new features, he considered embodied the best points and avoided the disadvantages of most known instruments of the kind.

Dr. Patterson said that he had not much experience of the use of urethrotomes; but as far as he could judge Dr. Fleming's instrument, it was ingenious, though it might possibly be difficult to keep it in working order.

*Dr. Cameron* said that he understood that they were not to discuss the class of cases suitable for internal urethrotomy. Of this operation he had no experience, except in the treatment of strictures in the penile portion of the urethra; but there his experience had been considerable. If the stricture were at all tight, and especially if the patient were apt to shiver, if there was tendency to urethral fever, they were bound to do something either in the way of rupture or cutting to give relief. A good many years ago he had a very obstinate case, and he divided by Charrière's urethrotome. On that occasion he learned some objections to the instrument. One of these was that the stricture must be dilated to a considerable extent before it could be used, and another was that it was difficult to know whether, in drawing back the instrument, it was drawn back far enough. Since then he had used the urethrotome of Mr. Berkeley Hill, which was a modification of Otis's instrument. It was a split sound, and he had no difficulty in regulating by it the protrusion of the knife. The guiding bougies to which Dr. Fleming referred were of no use, as the chances were that they came back. Dr. Fleming's instrument was ingenious, and he would be glad to put it to the test.

*Dr. George Buchanan* said that the instrument belonged to a class of which he disapproved on principle. He would not use an instrument which must be introduced into the body and worked by a kind of trigger contrivance from the outside. He could not conceive of a case in which he would use an instrument worked in this way. Dr. Patterson's case of dislocation of the wrist was to him extremely interesting. That a case of the kind should be vouched for by a competent observer was a notable thing. He himself, in a long experience, had never seen a case of dislocation of the wrist.

*Dr. Macewen* said that, when casualty surgeon in the Central Division, he had a large experience of fractures and dislocations; but only on one occasion had he seen a case somewhat similar to this. It was that of a sailor who had fallen down from aloft with his hand doubled up under him. In that case the skin was discoloured, but unlike the present one, other structures of the hand had been ruptured. The patient was sent to the Royal Infirmary.

*Dr. Morton* said that he would have liked some explanation of the occurrence of this displacement. Given the fact of a man falling as described by Dr. Patterson, he could not see how the carpus would be thrown back and the radius forward.

*The President* said that a case of real dislocation of the

wrist without any wound was, in his opinion, what no surgeon had ever seen. Dupuytren, whose vast experience was well known, said that he had never met such a case, and he doubted of its possibility. Malgaigne said the same thing. The obstacles opposed by the tendons to such a dislocation were enormous. These cases, supposed to be dislocations of the carpus, were really complicated cases of Colles's fracture. He had over and over again had cases sent to him as dislocations of the wrist which were simply cases of Colles's fracture. A case occurred in Constantinople in which a sailor fell from a mast, with the result of dislocating the wrist, as it was supposed. The case came under the charge of Dr. S—, who took this view of it. A number of surgeons were invited to see the case, himself amongst them. The case was quite similar to that described by Dr. Patterson, and yet after all it turned out to be a Colles's fracture. One of his students sent to him a case after he had been lecturing on the subject to remove his scepticism; but that case also was a Colles. He attached no importance to the plates in Maclise's letters. The late Dr. Allen Thomson informed him that Maclise produced these fractures on the dead subject. In regard to Dr. Fleming's instrument, he quite agreed that there were a certain number of cases in which the use of an internal urethrotome was applicable and necessary, such as that of resilient strictures, and narrow thread-like strictures. He had himself used Treloet's urethrotome, and found it an absolutely safe instrument. In no case had he seen anything go wrong with this instrument. He quite concurred with Dr. Cameron as to the uselessness of guide bougies; they simply came back in the operator's face.

Dr. Patterson said that he was aware of Dupuytren's strong opinion as to the infrequent occurrence of radio-carpal dislocation; and till the occurrence of the present case no one could be more sceptical than he was himself in regard to the fact of its possibility. Hamilton, in his work on *Fractures and Dislocations*, admitted that dislocations of this kind did occasionally occur, and gave examples of dislocations of the carpal bones backwards and forwards, with illustrative figures. If this was really a case of Colles's fracture, he certainly had never met with a case at all resembling it.

DR. CALDWELL SMITH, Motherwell, read "CORROSIVE SUBLIMATE AS A DRESSING IN MINOR SURGERY." (See page 21.)

Dr. Knox said that he had used corrosive sublimate with success as a dressing, but in two cases its use had been followed

by mercurial eczema. They were both cases of smashing of the bone, resulting in compound fracture. He used a solution of 1 in 1,000 of corrosive sublimate. In one case the temperature rose on the evening after the dressing to 103°. On taking down the dressing he found no discharge, and the wound looking perfectly sweet, but his attention was at once arrested by a pronounced mottling of the skin, like early psoriasis, and this over the whole body. The spots became covered with scabs. The corrosive sublimate dressing was stopped, and in about a week it was resumed with a recurrence of the same symptoms. In the other case the eczema was reproduced three times. Doubtless in these two cases there existed a predisposition to eczematous eruptions, the skins of certain persons being very liable to catarrhal affections, of which eczema was one. In both cases a good recovery was made; and in no other case in which he had used this dressing had he experienced any similar mishap. He used an alcoholic solution of corrosive sublimate, three grains to the dram. A dram put into a basin of water made a good solution.

On the motion of Dr. Fleming the discussion on this paper was adjourned.

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### MEETING III.—19TH NOVEMBER, 1886.

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Dr. A. C. PATTERSON, *Vice-President, Surgical Section, in the Chair.*

DR. BEATSON showed recent specimens of the COMMON NON-IMPACTED INTRA-CAPSULAR FRACTURE OF NECK OF FEMUR, AND OF FRACTURE OF THE ANATOMICAL NECK (INTRA-CAPSULAR) OF HUMERUS, from the same patient and from the same side of the body. In regard to the humerus he pointed out that the head of the bone had been completely tilted round, so that the articular surface of the humerus faced the rough surface of the upper end of the lower fragment.

Dr. Fleming, in continuing the adjourned discussion, after congratulating Dr. Smith on the excellence of his contribution, stated that in the beginning of the present year he had visited Sir Jos. Lister's wards when he was in London, and there had seen the Sal Alem-broth gauze dressings in use. On his return he resolved to give these a fair trial in his wards in the Royal Infirmary. After a good deal of experimenting, he had now

come to practically dressing almost every case with Sal Alem-broth gauze, made as follows. One part bichloride, one part sal-ammoniac, and 250 parts water, coloured with a little aniline dye. This gauze had one disadvantage—it adhered too firmly to the wound; and it was also difficult to soak it with water to facilitate removal. He accordingly tried a modification, using instead of water, glycerine one part and water four parts. This gauze he coloured red, to distinguish it from the other, which was blue. He found that this effected its purpose thoroughly well; and he had seen neither constitutional disturbance nor local irritation from its use. Dr. Fleming proceeded to show his manner of using the dressing. Its properties were that it was absolutely dry, septic, comfortable, easily prepared and applied, and very cheap. In operating he now used no spray. After the first disinfection of the instruments he used no carbolic, as it was apt to discolour the steel. He used extreme care in making the skin and all the surroundings of the wound aseptic. His fingers and the instruments were frequently dipped in bichloride of mercury solution; bleeding was carefully arrested, and the edges of the wound were brought together with careful co-ap-tation by silk-worm gut and cat-gut. Drainage was effected by a plug of glycerine gauze; firm elastic pressure was placed over the wound. This was simply Gamgee dressing. The first dressing was made 24 or 48 hours after the operation, according to circumstances, the drainage being removed at this dressing. The second dressing was made when discharge appeared, when temperature rose, or pain on moderate pressure outside dressing was felt. He liked to dress in any case at the end of seven or eight days, as by that time stitches should come out, and (unless in exceptional cases, such as osteotomy) it was well to see how things were going on. With this treatment healing by first intention was now the rule not the exception, and he had absolute freedom from septic accidents.

With spray and carbolic gauze they strive—ultimately with almost perfect success—to prevent septic ferments reaching the wound; but for this purpose they used carbolic acid, a highly volatile agent, by no means very powerful as an anti-zymotic, but the most generally useful available. To ensure its efficacy they required to arrange to have the wound surrounded by a constantly renovated atmosphere of the drug; and, even in spite of protective, the wound was more or less subjected to the influence of the acid. A waterproof covering jaconette at herequired, and, as a necessary result, a moist condition of but in mind was produced, and the exhalations

from the skin were retained. They thus substituted a small evil for a great one: they retarded union by keeping the wound and surrounding parts bathed in an irritating solution, but they gained enormously by preventing the putrid fermentation of the discharges; and this they must achieve, whatever form of dressing they adopted, if they placed their patient's safety from septic poisoning in the position of their first duty to him. For some years he had achieved excellent results in the minor surgery of the out-patient room by the use of boric lint, much as he now used mercurial gauze; but for larger wounds its feeble antiseptic power militates against its extensive application.

Let them now consider how bichloride, applied as just described, acted. Most of them must remember not very long ago Sir Jos. Lister described the perfection of sublimate serum as a surgical dressing. He showed that it was almost non-irritating and powerfully antiseptic. It was used with some success, but it was employed in the same manner as, and as a substitute for, carbolic gauze, which he (Dr. F.) had shown was a wet dressing, and therefore it had been superseded by the simpler and more efficient dry dressing. What were the virtues and failings of dry dressing? The natural method by which a wound under fortunate circumstances healed, and healed rapidly and perfectly, without surgical aid, was by covering itself with a crust or scab of dry coagulated blood. If this did not contain in itself, or rather beneath it, the elements of putrefaction, or if the vitality of the tissues was sufficient to destroy the amount of ferment, or if the dessication was complete enough to prevent growth of the ferment, they had the wound healing under the scab exactly like a subcutaneous one. To produce artificially, and with certainty, analogous conditions, is the aim of the system under discussion. By the application of a solution of corrosive sublimate to a newly made wound, they had a layer of serum sublimate formed on its surface. This seems almost unirritating, as a much smaller serous discharge takes place than after similar treatment by carbolic acid. The small piece of glycerine gauze laid upon the surface remained, as they had seen, really dry; but the glycerine prevented the very firm adhesion which they had if it was omitted. The glycerine prevents it sticking. The gauze plug was the best drain he had yet used for serum, acting, as it did, by capillary attraction—and nothing but serum need be drained from a fresh wound—the outer covering, while, from its porosity, it soaked up discharge, allowed it at once to dry, and permitted free cutaneous exhalation, and, by

its hygroscopic tendency, made it easy to moisten the gauze before removing. The only case of skin irritation he had seen was produced by gauze prepared in London, and, in his opinion, was due to the gauze being too close in texture, and therefore being kept slightly damp by the cutaneous exhalation.

They had then a dressing which was really a scab, and we had taken care that there were neither in it nor under it ferments which could lead to putrefaction, nor could any tension ensue. This is the nearest approach they had yet made to nature's method of treating wounds, and therefore the best. As to drainage, much less seemed necessary than by other methods. He removed all drainage at the end of, at most, forty-eight hours. If there was still fluid coming away, it kept the drainage wound sufficiently open; if not, it healed.

By this method, then, he claimed that they arrived at the greatest simplicity in treating wounds. They required few dressings, generally only two or three in each case. They had certainly facility of application, rapidity of healing, and economy.

*Mr. Clark* said that he laboured under the disadvantage of not having heard the paper which opened the discussion. He might state, however, that, in visiting the wards of Dr. Fleming, he had been impressed with the aesthetic character of the dressings, and had instructed his resident assistant to compare notes with Dr. Fleming's assistant in regard to the preparation of the dressings. On doing so it was found that the only difference was that, wherever Dr. Fleming prepared his dressings with solution of chloride of ammonium, he used chloride of sodium. He also preferred bone drainage to that employed by Dr. Fleming. He had also made a trial of naphthaline in place of iodoform, as he found the latter too dear for ordinary hospital use. Naphthaline was cheap, and did very well. Idol he had also tried, but it did not spread very well, and it had not strong antiseptic properties. Naphthaline, which had a strong but not unpleasant smell, had in his hands been productive of no bad constitutional effects. He himself had never ventured entirely to discard the spray in operating. Corrosive sublimate, with many advantages, had this one disadvantage—that it was not volatile, and did not produce an antiseptic atmosphere; but, to counterbalance this, it was equally non-volatile as regards the dressings.

*Dr. Scott, Tolleross*, said that for 18 months he had used corrosive sublimate with very good results in a wet dressing. Dr. Smith, who he understood, also used it as a wet dressing, appeared to show a good deal of want of faith in the dressing,

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otherwise he would not open it so frequently. He himself never opened before the fourth, fifth, or sixth day. He could not see the use of opening up so often in the face of the good results which Dr. Smith had recorded. An ordinary water dressing would do very well if so frequently renewed. He had seen no bad effects, either constitutional or local, from his use of corrosive sublimate, which he considered one of the safest and most powerful of antiseptics.

Dr. John Dougall said that he had no experience in the use of corrosive sublimate as an antiseptic dressing, but there were a few points connected with it which he wished to notice. Dr. Smith, in his paper, and Sir Joseph Lister, in the lecture from which Dr. Smith quoted, seemed to assume that Koch was not only the first who discovered the antiseptic powers of corrosive sublimate, but also the first to show that these powers were relatively of a very high order. Now, Koch's experiments and Lister's lecture were only first published in 1884. But somewhat about 80 years ago, Waterton, the celebrated naturalist, during his wanderings in South America, used corrosive sublimate for preserving the skins of animals. A little later, Kyan used it for preserving wood for building war-ships from dry rot; and Dr. Ure recommended it with pyrolignous acid for embalming. Not, however, till 1865 were its antiseptic powers compared with those of other bodies. In that year, Dr. Angus Smith found that when it was mixed with blood the amounts of putrefying gases ( $\text{CO}_2$  and  $\text{H}_2\text{S}$ ) evolved were too minute to admit of determining their quantities; while with many other *alleged* antiseptics, including carbolic acid, tested under identical conditions, these gases were produced in large quantities. In 1870 he (Dr. Dougall) published a paper in the *Lancet*, in which it was shown that one part of  $\text{HgCl}_2$  in 6,000 parts of water arrested the movements of infusoria in hay infusion, while it took 1 in 750 of carbolic acid to do so; and in a supplementary series of experiments by the late Dr. C. Calvert, of Manchester, his results were fully confirmed. Again, in 1871, Dr. Sanson, of London, showed that .03 of a grain of  $\text{HgCl}_2$  arrested the fermentation of 25 grains of cane sugar, while it took 2 grains of carbolic acid to do so. In a paper published in the *Glasgow Medical Journal*, 1872-3, a reprint of which he held in his hand, there are given details and results of experiments to determine the relative antiseptic power of different bodies, by noting the number of days which elapsed from the time such was added to a putrescible fluid until the appearance of micro-organisms in the mixture. The results showed that, with

carbolic acid, organisms appeared in 26 days, in an average of three experiments, but with corrosive sublimate no organisms appeared in 182 days. Cupric sulphate, argentic nitrate, potassic bichromate, chromic, and benzoic acids, were next to corrosive sublimate, and that *qua* these experiments benzoic acid equalled it. These facts prove that the antiseptic power of  $HgCl_2$  was known 80 years ago, and that 20 years ago it was established that this power was unusually great as compared with that of most other alleged antiseptics by our own countrymen long before Koch's experiments, as quoted by Lister in his lecture and Dr. Smith in his paper.

Corrosive sublimate, like most mercurial salts, had a wide range of chemical affinities; and this should be remembered in any combination made with it, as it is in consequence liable to be easily changed. It is decomposed by most vegetable infusions, decoctions, and articles of diet, especially when exposed to light; also by trituration with fats, fixed and volatile oils; by the alkaline earths, their carbonates, chlorides, &c. Mr. Clark stated that evening that he prepared his dressing with chloride of sodium, and by doing so he decomposed the chloride of mercury. A well known unchemical preparation was the *Lotio flava*, in which the yellow oxide of mercury is formed by the addition of  $HgCl_2$  to lime water. A peculiar property, which should be remembered by those using it locally, was that, although easily decomposed in most of its combinations, yet its union with protein bodies, such as gluten, gelatine, albumen, &c., was most tenacious; so much so, indeed, that it can only be separated from the blood by destructive distillation. It had been calculated by Orfila that the white of one egg combined with or rendered insoluble four grains of  $HgCl_2$ ; but the albuminate of mercury thus formed was re-dissolved in excess of albumen, the  $HgCl_2$  remaining still undecomposed in the albuminous fluid. Hence corrosive sublimate applied to a wound is not decomposed, combines with its lymph, and, according to the quantity used, may remain insoluble in the wound or in solution, and be absorbed into the blood. The solutions of  $HgCl_2$  were also no exception to the rule that the best antiseptics are acid. Lister mentioned that he found that  $HgCl_2$  caused an eruption in the healthy skin, and proposed to use a soluble albuminate. In his opinion this might suit, being milder, and would not putrify soon, while the corrosive sublimate would be undecomposed by the union.

Dr. H. C. Cameron said that he had some experience of mercurial dressings, though up to the present time he still used carbolic dressings in such cases as large abscesses, and in

cases of abscesses connected with the chest and abdomen, such as psoas abscesses. In the case of recent wounds he had lately used mercurial dressings. The German dressing with wood wool or wood wool wadding was so far convenient that it could be laid on in distinct sheets; but the objection to it was that it was so bulky and unshapely that an ordinary splint could not very well be used outside the dressing. It was especially applicable in this form in minor surgery. The mercurial dressing was also applicable in cases in which the wound, after dressing, was left a long time without exposure. He had used it in cases of excision, especially of the knee in children, in which the difficulty of keeping the limb fixed was entirely got over. Having first purified the skin by washing it with carbolic acid solution, which leaves the skin of a fresh colour, and perfectly clean, the operation was performed, the dressing was applied, and left on permanently. There was no rise in the temperature, and no pain. He had tried the dressing in cases of amputation. Just at present he had a case of a young lady whose leg, being useless, he amputated at the thigh, to allow of the use of an artificial limb. He had dressed the limb three times in three weeks, and without a bad symptom. As to minor surgery, it was unjustifiable to perform primary amputation for injury of a finger. For such an injury they could trust to bichloride of mercury for keeping it in pickle for some time. By this means a great number of fingers would be saved. Sir Joseph Lister he believed, had now discarded sal alembroth and taken to cyanide of mercury gauze. Some months ago he mentioned to him that he found it a great objection to this substance, that it was extremely soluble, and consequently the discharges often dissolved it out at the first dressing. Mr. Martindale suggested to him that he should try cyanide of mercury, a salt little used, as insoluble as the bichloride, and very much less irritating. He had himself seen a bichloride dressing, in which the irritation was extreme, going on to sloughing. This gauze he had been using with good result. In one case in which the thumb of an old gentleman had been completely smashed by a mallet while he was holding a stool, with both phalanges fractured at the joint, he had used this dressing. He had had no pain, lost no sleep, and would be left with a good thumb, though it might be ankylosed. He was disposed to think that this chloride of mercury made a satisfactory dressing. With gauze tissue saturated with the bichloride, splints could be used without inconvenience.

*Dr. Beatson* said that the discussion had made it clear

enough that this antiseptic solution was of the greatest value. But there was just the danger that in discussing the question of particular dressings, too much stress should be laid on the dressings, each one being presumed to be applicable in every case, while the other factor—viz., the constitution of the patient, was not taken into account at all. In one case corrosive sublimate might be the proper application; in another, carbolic acid. The discarding of the spray had been spoken of by some speakers; but nothing could be better than the results previously obtained under the spray. He would never think of opening a psoas abscess dressing without the spray. He preferred wood wool next the wound and Gamgee tissue outside, and having previously provided for drainage, to leave it undisturbed.

*Dr. Macewen* said that he very well remembered Dr. Dougall's papers on antiseptics, and the enthusiasm with which he threw himself into the subject of testing the power of various agents; and he equally well remembered that his conclusions were looked upon as extremely doubtful. Now, however, the tide had turned; the Germans had taken up the subject of a cheap substitute for carbolic acid, and the result was that the researches of Dr. Dougall and others as to corrosive sublimate were confirmed and utilised. He remembered, when in Hamburg, seeing Schrader dressing wounds with sublimate dressing. It was prepared by raising sand to a white heat, then sublimating the perchloride. Furnace ash was also used in the same way. Drainage was effected by spun glass. Since that time the sublimate dressing had spread all over the Continent. There had been a great demand for a convenient absorbent material. Peat, moss, wood wool, had all been extensively tested. The absorbent quality of this dressing was of great importance. Absorbent cotton wool acted as an absorbent of water, but it failed to absorb pus satisfactorily. Certainly wood wool was much better in this respect than Gamgee tissue. With regard to the watery solution of the bichloride, Dr. Smith would not obtain such good results by using it in that way as by a dry dressing, chiefly for the reason that he would require to dress very much oftener. But an important principle was to dress as seldom as possible. Dr. Macewen said that he never got better results than those under the old carbolic dressing; but the expense and the frequency of dressing were certainly serious drawbacks, which were now obviated by the use of sublimate wood wool. He had not experienced the disadvantage spoken of by some speaker as to the clumsiness of

the wood wool when a splint was used outside of it. Dr. Macewen then explained the details of his own mode of dressing with corrosive sublimate. He said that with a watery solution care should be taken that it was sufficiently weak. He had seen cases of local destructive effects produced by a watery solution of 1 to 2,000, when the latter was retained in the tissues. He would be careful if he had a large surface to deal with not to use a watery solution of bichloride. He used decalcified chicken bone drainage tubes, though he would not use them in suppurating sinuses or cavities. In regard to stitches he did not use silk-worm gut. He had proved by trial that this substance was not absorbed often at the end of four months. This statement he was aware was controverted by some, but such was his experience. He used chromic gut for stitches and ligatures. He might mention that in the last forty consecutive cases of primary amputation, excluding some who died within forty-eight hours after admission, healing took place after one dressing—that put on at time of operation. Occasionally some small pieces of granulation tissue were exposed on taking down the dressing after the rest had been absolutely healed. In excision of the knee he had no occasion now to use plaster or paraffin, as the wounds generally healed under a single dressing. Many cases were well in three weeks after operation. In regard to fingers, Dr. Macewen detailed several cases in which he saved fingers under the most unlikely circumstances. As to bichloride as a dressing, he summed up his opinion that it was cheap, easily used, and gave excellent results in many cases. The occurrence of eczema after its use he could quite understand if the watery solution were used. One such case he had seen.

*Dr. Patterson*, Vice-President, said that the discussion had been a most interesting one. Under the new dressings there appeared to be no failure, and no deaths. He was old fashioned enough still to use the spray. His results from 1st May till that day were 137 operations, and one death. Few of the surgeons present were in a position, as he himself was, to contrast mentally the surgery of to-day with that of his student days. In the hospital there might be an outbreak of erysipelas in one month, of hospital gangrene in the next, and of pyæmia in the third, while occasionally all three scourges co-existed in the same ward. A man brought in with a compound fracture would be placed in a bed from which the body of a man who had died from pyæmia had been removed; while a case of hospital gangrene might occupy the bed on one side and one of erysipelas on the other. On coming in he was

put perhaps on 8 oz. of whiskey, with quinine and iron. If he survived the perils of erysipelas, portions of the bone died, and were sawn off. In the month of August rows of maggots might infest the wound.

Dr. Smith said that he would simply thank the Society for the criticism of his paper. His dressing, he might state, was not a dry dressing. His object in opening at the end of 24 hours was to cleanse the neighbouring parts more thoroughly from oil and dirt than he could do at first dressing. In some respects he was now convinced that a dry dressing would be preferable, and he would give a fair trial to that described by Dr. Fleming.

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## GLASGOW SOUTHERN MEDICAL SOCIETY.

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SESSION 1885-86.

MEETING XIII.—15TH APRIL, 1886.

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DR. CARR, *President, in the Chair.*

DR. STIRTON read a paper on the TREATMENT OF ENDOMETRITIS.

In regard to the name endometritis, Dr. Stirton was not certain who first used it, but he certainly knew that the late Sir James Simpson was among the first to use it, and to him also must be ascribed the credit of fearlessly attacking the disease. He, on one occasion, applied potassa fusa to the uterus, with fear and trembling, but was agreeably surprised to find that, instead of doing harm, as he feared it might, it accomplished much good. This was in a case which had resisted milder applications, and he, finding himself nearly baffled, used this remedy as a *dernier ressort*. After applying this remedy, however, for some time, he found that it was difficult to control its action, and then he substituted in its place the nitrate of silver. Dr. Stirton pointed out that his views and treatment were ridiculed and reviled in the medical press of the time, and he was called any number of objectionable names. Then nitrate of silver for a time was abandoned, and was followed by Churchill's tincture of iodine, which held its ground for years. In America, however, Marion Sims states that a persistent use of the nitrate of silver was dangerous, and he proved it; consequently it was tabooed, and even to this day iodine is used. They also use,

however, equal parts of chronic acid and water, equal proportions. In applying any of these remedies to the interior of the uterus, it is necessary to dilate the *os uteri*, and then use the solution by means of a properly constructed syringe. The dilatation of the *os uteri* must be produced in order to allow of the escape of the caustic fluid. The other remedies in use are iodine and carbolic acid, pyroligneous acid alone or combined with acetic acid, creasote alone and with iodine, tannin and glycerine, glycerine and extract of *pinus canadensis*. These are the remedies substituted by the Americans for the nitrate of silver, and the last mentioned is now largely used there. Dr. Stirton has tried it frequently, but finds no benefit from it.

Besides these solutions or liquid preparations, there are certain dry preparations also used. These are principally powdered persulphate of iron, iron alum, oxide of lime, and iodoform. The method of using is as follows:—Dilute the *os uteri*, then wrap a little cotton round the end of a Playfair's probe, dip it lightly in glycerine, roll the cotton in the powder to be used, pass it into the uterus, and leave the cotton by reversing the mode of twisting it on the probe. The uterus will most probably eject it in ten or twenty hours.

Care must be taken in diluting the internal *os* to avoid doing injury. The dilatation can be best and most quickly effected by means of tangle tents of young growth.

Dr. Stirton's experience is much in favour of the use of nitric acid and nitrate of silver, and he thinks that they do not act as caustics after the manner of *potassa fusa*. This view of their action is that when applied they produce oxidation of the tissues, but do not destroy the mucous membrane as the latter does.

*Dr. M'Millan* opened the discussion by remarking that the treatment spoken of by Dr. Stirton begins and ends in nitrate of silver. He considered the paper interesting, especially in its historical bearings. But he thought that there surely are simpler methods of treatment than this, and he is surprised that Dr. Stirton omitted to mention them; for instance, the hot water douche, the remedying of mechanical malpositions, &c. His personal experience in one case in which the nitrate of silver was applied, was that the immediate effects of the remedy was very severe, but the after effects were very good.

*Dr. Glaister* was quite of the opinion of the previous speaker that from the remarks made by Dr. Stirton those who listened would be compelled to conclude that the treatment by nitrate of silver applied to the interior of the uterus was the only

treatment worth applying. It was no doubt an omission on the part of Dr. Stirton to mention different kinds of treatment, because it was very obvious to every one that the disease in question varied much as to its intensity in different cases, and consequently would be benefitted by different forms of treatment.

In the less severe forms he had found great value from the use of the syphon. Indeed, he preferred this method of applying hot water than by the syringe, because by the latter method harm might be effected instead of good by the greater force of the current.

A very simple form of syphonage which he had frequently practised was as follows, its requisites being an ewer and two yards of india-rubber tubing:—The ewer filled with hot water is placed on the top of some moderately high article of furniture, and into it is placed one end of the tubing, loaded with a sinker of any kind, in order that it shall reach the bottom of the vessel; then, by means of the mouth or a syringe, the water is drawn by suction to the other end of the tube, which is then placed in the vagina, and the hot water current is continuously sustained till the ewer be empty. Where endometritis accompanies malposition of the uterus, the treatment indicated would be to rectify the displacement, because, although it has not yet been clearly proved that this initiates the disease, there can be no question in respect of its causing aggravation of it.

In regard to the severer forms there was no doubt that sterner treatment was required.

He had used strong nitric acid on a few occasions, and with marked benefit, but he would prefer to exhaust all the other milder forms before resorting to it. A strong solution of nitrate of silver was apt, when used to the interior of the uterus, to flow out into the vagina, and produce troublesome inflammatory action, but this could be overcome by using immediately after application a tampon saturated with a solution of common salt. He believed, and in this he differed from Dr. Stirton, that both nitric acid and nitrate of silver destroyed the tissues with the development of nitrates with the albumen of the tissues. But he would modify this by remarking that the effect depended on the kind of tissue attacked. For instance, in the epidermis, the effect of nitric acid is to destroy the epidermal layers with the formation of picric acid, but on softer tissues, say granulation tissues, there was direct destruction and formation of nitrates with the albumen of the elementary tissue and blood. Nitrate of silver

on the skin destroys the epidermal layers with the formation of oxide of silver in the superficial tissue, but on granulation tissue produces direct destruction of tissue, with formation of, partly, nitrate and oxide. This was a question, however, which demands further investigation.

*Dr. Pollock* was of opinion that the Society was indebted to the author of the paper, but he was disappointed to find that Dr. Stirton had confined himself solely to its intra-uterine treatment.

*Dr. Pollock* thinks that endometritis due to displacement ought first to be treated by rectification of position, followed by rest, syphonage, if necessary, and certainly by constitutional treatment. In regard to intra-uterine medication, his personal experience is in favour of dry preparations, and he has used bismuth, iodoform, and calomel, together with marked benefit resulting. As for nitric acid, he looks upon it as a powerful caustic, but thinks it a valuable remedy in stubborn cases. He has not used nitrate of silver.

*Dr. Gilmour* believed that the discussion would have been more profitable if its basis had been broadened. He would confine himself, however, to the lines already laid down. He thinks that glycerine tampons, which had been well spoken of by a previous speaker, are a hopeless remedy, except as a means of depleting a flabby uterus. Glycerine with carbolic acid, or with iodine, have proved valueless in his experience. He had not used nitric acid till he had heard Dr. Stirton's views on this remedy on a former occasion, but shortly after that, a suitable case presenting itself, he, after dilatation of the os, had applied it. Before use the measurement of the cavity of the uterus was five and a half inches, and after two applications of the acid it was reduced to four inches. This patient did well, had no pain after application, and two hours after each application was able to move about in her ordinary way. He would agree with Dr. Stirton as to the non-caustic effects of nitric acid and nitrate of silver.

He thought that the general treatment of endometritis would have come well from Dr. Stirton, and he was sorry he had not taken it up. He might be excused if he shortly went over a few points of it.

He thought that complete rest, or cessation of improper kinds of work, with mental change, was very beneficial. The vaginal application of hot douches was also of great use. Medicated douches were sometimes of value. He had found no good result from alum, and he had not used glycerine and sulphate of zinc, as recommended by Fordyce Barker.

He would like to know the experience of anyone who had used the curette.

*Dr. Brown* had not seen any evil effects from the use of nitric acid.

*Dr. Stirton*, in reply, remarked that in confining himself so strictly to the intra-uterine treatment of endometritis, he had not forgotten the benefits to be derived from other lines of treatment; but he had presupposed, in what he said, that the cases they had to deal with were beyond the stage of general treatment. For instance, in order to show that he values any kind of treatment which will cure, he uses the hot douche regularly, and corrects displacements when he finds them present.

In regard to *Dr. M'Millan's* case, that in which nitrate of silver was used, he would say that it was *one* that had turned out badly, but for the last two or three years he has applied nitric acid and nitrate of silver very frequently and has seen no inflammatory effects result. His rule is that after one or other remedies has been applied, to keep the patient on her back for three hours.

He still thinks, notwithstanding what has been said by some of the speakers, that nitric acid and nitrate of silver do not act by first destroying the tissues with the formation of nitrates, but destroy with the formation of oxides.

The important point to be observed before applying either of these remedies is to have the *os uteri* well dilated; and for the purpose of dilation he uses the French dilator, or spongetents. The French dilator has a parallel action, and when dilating you must circularly move the instrument.

**DR. GILMOUR** then showed the **HEAD of the TÆNIA MEDIO-CANELLATA**, and read brief notes of the case.

*Mrs. M'C.*, æt. 24, married for two years, had noticed the joints of tape-worm in her stools eleven years before. She had a predilection for raw beef and sausages, and her sister, with like tastes, suffers also from tape-worm. In September last she was ordered to take turpentine capsules, and after doing so for about twelve days, was given one drachm ( $\frac{3}{4}$ i) of extract of male fern, followed by  $\frac{3}{4}$ i of castor oil in the morning. No joints were observed in the resulting stools. A month afterwards, the joints reappearing, she resumed the capsules, until she had taken 80 in number, and then took another dose of male fern. On this occasion the dose was exhibited in the early morning, divided into three parts. She vomited the first two, but retained the last which

was taken at 6:30 a.m. Shortly afterwards the worm was voided intact.

Everybody knows that this disease comes from the measles of cattle, and that ill-cooked or raw beef is the vehicle of infection.

Cobbold thinks the hookless worm infects the rich, and the hooked worm, the *tænia solium*, attacks the poor.

As for treatment, he thinks that male fern, preceded by turpentine, is the best. And it is interesting to note that although the treatment by male fern was revived by Christison, it was used by Dioscorides, Pliny, and Galen.

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## ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

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**Hamamelis Virginica.**—Dr. B. Reber publishes in *Der Fortschritt*, 5th December, 1885, a paper on the properties and uses of this drug, the witch-hazel of America. After discussing the literature of the plant, and describing fully its botanical features, he says:—"The plant contains no alkaloids, but, besides a wax-like substance, tannin, gallic acid, red dye, salts of lime, iron, and potassium, and an essential very aromatic oil, in which particularly the leaves are very rich. This oil is of greenish-yellow colour, is very volatile, possesses in the highest degree the characteristic smell of the hamamelis, and probably forms the active constituent of the plant.

"The hamamelis has always been in America and India one of the most popular empiric remedies, especially for tumours, ulcers, and all kinds of skin diseases, for which purpose poultices of the powdered bark are employed. Proper scientific observations on the action of this plant have been made only within the last twenty years, but are at present very numerous.

"The hamamelis has been tried in various diseases, and, according to report, with good effect in puerperal haemorrhage, and in haemorrhage from piles and varicose veins. This styptic action appears to be the most valuable property of the hamamelis.

"Among its pharmaceutical preparations, the fluid extract and an alcoholic distillate take the first rank. There is barely a home or a family medicine-chest in the United States of North America in which may not be found this distillate of hamamelis (known there by the name of 'Pond's Extract').

This extract contains 10 per cent of alcohol, and being of a somewhat disagreeable smell, it is prescribed in the following form:—Extracti fluidi hamamel., syrup. cort. aurant.,  $\frac{1}{2}$  jss.; tinct. vanillæ  $\frac{1}{2}$  xx. The dose is four to ten teaspoonfuls daily. Like all fluid extracts, that of hamamelis contains one gramme of the plant to one gramme of the extract.

“The preparation sold under the name of ‘hazeline’ is the distillate from the fresh bark of the hamamelis virginica. Besides this, there is a tincture in the proportion of one to ten in use. The French prescribe it in the following form:—Extract of hamamelis, alcohol, and water, equal parts. In America also a dry extract, under the name of hamameline or hamamelidine, is used in pills, from 0.03 to 0.13 gramme (half a grain to two grains). Besides this also a decoction of the plant (30: 500), and in haemorrhoids an ointment consisting of three parts of the tincture to thirty parts of fat, or suppositories with one centigramme (one-sixth of a grain) have been prescribed.

“All the physiological and therapeutical experiments with the various preparations of hamamelis show that this remedy may be employed without injurious effects, even in large doses, and for a long time. Not a single case of poisoning has yet been known. But all observations prove the peculiar action of this remedy on the blood-vessels.”

**Malthe on a Combination of Iodoform with Lunar Caustic.**—Dr. Malthe has used with benefit, in the surgical department of the Christian Hospital, a combination of nitrate of silver with iodoform as a caustic and alterative in chronic torpid ulcers and fistulæ. The ulcer or fistula is first sprinkled with powdered iodoform, and then nitrate of silver is applied over the whole surface, and iodoform is again dusted over the part. This is followed by the production, with brisk effervescence, of nitrous acid, insoluble iodide, and chloride of silver, and perhaps, also, nitric acid and other combinations. These different stimulants act on the tissues in the nascent state. The process of decomposition may be represented by the following equation:— $\text{CHI}_3 + 3(\text{AgNO}_3) = 3\text{AgI} + \text{HNO}_3 + 2\text{NO}_2 + \text{CO}_2$ . A great advantage of the remedy is, that the cauterisation is strictly limited to the soft parts to which it is applied. Fistulæ and ulcers heal under an anti-septic layer of iodide of silver and iodoform, leaving strong cicatrices. The application has been used in the treatment of fistula following resection—e.g., of the hip-joint. A faecal fistula following gangrene in hernia healed in a few days,

after two applications, after various other remedies, including iodoform and Lister's dressing, combined with pressure, had been for some time tried unsuccessfully. It will probably also be found useful in cases of chancrous ulcer.—*London Medical Record*, 15th January, 1886.

**Vulpian on Salicylate of Lithia in Rheumatism.**—M. Vulpian has read, before the Académie de Médecine, a summary of the results of his experiments on salicylate of lithia in articular rheumatism. He states that his experiments indicate that lithia salts are not so poisonous as they are supposed to be. Salicylate of lithia is not more dangerous than salicylate of soda, and can be administered in almost equally strong doses. In acute articular rheumatism, salicylate of lithia relieves the pain which often remains in the joint after the swelling has disappeared, whereas colchicum and salicylate of soda have no effect. M. Vulpian believes that salicylate of lithia is especially beneficial in fibrous rheumatism. In progressive sub-acute rheumatism, M. Vulpian has seen salicylate of lithia produce great improvement. Salicylate of soda has been successful in such cases, and produced amelioration of the patient's condition; but both greater and more lasting benefit is obtained by salicylate of lithia. In chronic articular rheumatism M. Vulpian has found salicylate of soda useless, whereas salicylate of lithia has had a marked effect on the joints, which become less swollen than before the treatment. In order to obtain evident results, four grammes, sometimes four and a half or five grammes, must be given daily. Larger doses are followed by toxic symptoms. This drug sometimes induces headache and deafness, but is never followed by the distressing noises which characterise treatment by salicylate of soda. The headache and deafness disappear quickly.—*London Medical Record*, 15th January, 1886.

**Analgetic Action of Carbolic Acid, &c.**—Dr. Roger McNeill has recently conducted an investigation into the analgetic action of carbolic acid and the cresol group on the skin. The substances experimented with besides carbolic acid were benzol and toluol (both without effect upon the skin), toluidine, cresol, theerol, pancakesol, and orthocresol. He found that, although no pain was felt on cutting the skin, the sensation to touch was intact: the least scratch or contact could be felt, but no pain. Three operations were performed, by aid of the experience thus gained, with little or no pain. An epithelioma of the lip was removed, the part having been

previously painted with 60 per cent of carbolic acid in olive oil ; a small tumour was removed from the back of a woman's leg, the tumour having been first painted over with 60 per cent cresolene ; and the contracted plantar fascia of a boy was divided after 80 per cent of theerol in olive oil had been applied to the part. Dr. M'Neill draws the following conclusions :—(1) That the agents mentioned produce analgesia when applied to the skin. (2) That mixed in certain proportions with glycerine or olive oil they take away the sensation of pain without causing any untoward effect, either locally or constitutionally. (3) That the strength used must vary according to the thickness of the epithelium, and perhaps the acuteness of the sensation. (4) That certain operations may be performed by their aid painlessly without chloroform. (5) That they are corrosive when applied to the skin unless sufficiently diluted. (6) That glycerine has more power in preventing corrosion by these agents than olive oil, and might probably be administered with benefit in cases of poisoning by carbolic acid or any of the above agents.—*Edin. Med. Journal*, June, 1886.

**Cocaine as a Local Remedy in Hydrophobia.**—Surgeon-Major Keegan has recently, for the second time, made trial of cocaine as a local application in hydrophobia, and has recorded the particulars of the result. The patient was aged 65, and had been bitten about six weeks before he came under observation. There was great difficulty in swallowing, but after his fauces had been painted over with a four per cent solution of cocaine three times at very short intervals, he was able to swallow much better, though still with difficulty. After this for the next three days a 20 per cent solution was used, and this enabled him to swallow milk with fair comfort. The difficulty of swallowing then became a less marked feature of the disease, and the cocaine was dispensed with, but paralysis set in and he died on the fifth day from the commencement of treatment. Dr. Keegan lays great stress on the very decided benefit that was afforded by the remedy during the second stage of the disease, though it does not seem to have done much in the way of staving off the final result.—(*Indian Medical Gazette*, April, 1886.)—*The Practitioner*, August, 1886.

**A Contribution to our Knowledge of Arterial Tuberculosis.**—This paper, by Dr. Dietrich Nasse, of Göttingen, in *Virchow's Archives*, for July 1886, is of very considerable importance, especially in connection with the communication

of Weigert, of which we have just given an outline. He points out at the beginning that hitherto Weigert's observations on the relation of tuberculosis to the blood-vessels had been the most important, but that these referred chiefly to the veins, and little to tubercular disease of the arteries or the local disturbances of the circulation which might result therefrom. The writer's observations deal with the arteries of the spleen and kidney, and the main point in his paper is, that by the cases he gives, the author demonstrates that the tubercular lesion of the wall of the artery may lead to thrombosis, and this consequently be followed by the occurrence of infarctions in the respective organs. We cannot follow the author further in his observations or arguments, but the following summary conclusion to his paper will give our readers a good idea of the results to which the author has come:—" (1) In disseminated tuberculosis there may occur in the kidneys, and especially in the spleen, anaemic or mixed anaemic and haemorrhagic infarctions, which are caused by a tubercular disease of the supplying artery and the consequent thrombosis. (2) Disseminated local tuberculosis of the kidney may occur, whose origin is to be looked for in the penetration of an artery by tubercle formations. Whether such conditions may occur in other organs the author has had no opportunity of determining, but certain appearances in the lungs would suggest their probability." The author concludes by remarking that his paper was out of his hands before he was aware of Weigert's article, of which we have just given an abstract, but remarks that there are certain important differences, which our readers will at once perceive, between the two communications.—*Virchow's Archives*, vol. cv, page 173.

[There is, perhaps, no morbid condition of which, in recent years, our knowledge has increased so much as tuberculosis, and the paper which we have just been epitomising, along with that abstracted in the November number at p. 403, is an additional proof that the affection is still receiving the attention of the most advanced of our scientific *confrères*, and that the etiology, development, and relationships of tubercular affections are becoming more clearly established and understood every day. A perusal of these papers cannot fail to recall to the reader the doctrine, so strongly held by many some years ago, that there could be no general tuberculosis without the presence of a caseous mass, which was the *fons et origo* of the tubercular poison circulating in the blood. It was not necessary, however, that this caseous infecting mass

should be what is ordinarily designated tubercular, and here lay the error of the whole doctrine. The one point that seems now to have been established beyond the possibility of doubt is that only a *tubercular* caseous nodule is capable of giving rise to tubercular infection, and that, however different in naked eye and microscopic characters a typical miliary tubercle and a large caseous glandular or pulmonary nodule may be, they are essentially and intrinsically the same, because they originate from the same cause (the tubercular virus), they obey the same laws, and they, in the long run, suffer the same fate. The importance of Weigert's observations in regard to the etiology of general and also of local tuberculosis, must be apparent to every one; and we would conclude this notice by referring our readers to a paper by Dr. Joseph Coats in a recent number of this *Journal*, the results of which are in entire agreement with those of Weigert.—J. L. S.]

On the Duration of the Knee Reflex in Degeneration of the Posterior Columns of the Cord: with remarks on combined Primary Affections of the Posterior Columns (*Arch. f. Psych.*, &c., xvii, S. 547).—This is the title of an important paper by Westphal. In his first work on the tendon reflexes (*Arch. f. Psych.*, &c., v, S. 803, 1875), he showed that the knee reflex was absent if the posterior columns from the lower dorsal to the upper lumbar regions were involved, but that it remained if the disease was in the cervical region, and ceased when the above regions were involved. In a later observation (*Berliner klin. Wochenschr.*, 1881, No. 2), where the clinical symptoms and the result of the *post-mortem* showed only a very early degeneration of the posterior columns, and in which the knee reflex only disappeared two months before death, the sclerosis was found only in the outer portion of the posterior columns, the median parts remaining free. The posterior roots in this case were not atrophied. In another case (*Arch. f. Psych.*, &c., xv, S. 731, 1884), in which the knee reflex had disappeared for a year before death, the outer part of the posterior columns was extensively degenerated. Finally, he likewise found (*l. c. XVI*, S. 496, 1885) the outer part of the posterior column diseased in a case in which during life a posterior sclerosis would not have been suspected, and in which the knee phenomenon was present till death, still the precise locality of the degeneration in this case was different from that of the first two.

In the present paper the author gives two cases which presented complicated symptoms of *tabes dorsalis*, in which,

however, the patellar reflex disappeared for the first time only shortly before death. The clinical histories and the anatomical investigations (with illustrations) are fully communicated.

The disease began in the first case with subjective disturbances of sensation in the back and in the feet, the girdle-symptom, and instability of gait. Then sensory disturbances of the upper extremities, loss of ability to walk, double vision, difficulty of urination set in. At length ataxy of upper and lower extremities with disturbance of the muscular sense, and rapidly increasing weakness of both lower extremities with spasms in one leg occurred. The pupils contracted normally. The knee reflex, abolished for the first time three months before death, was in the beginning of the disease very active.

In the second case there was ataxy of the lower extremities, with gradually increasing weakness of the same. In the upper extremity there was no ataxy, only sensory disturbances. Pupil contracted normally. The knee reflex had disappeared in the one leg 22 days before death; in the other, during this time it could be made out, and only disappeared completely one day before death.

In both cases the chief lesion revealed itself as a degeneration in the posterior columns of varying extent and intensity at different heights of the cord. In one there was an irregularly distributed degeneration in the lateral columns, and at particular spots a sclerosis, which also in many places had an irregular distribution, of the anterior columns was present.

Both of these cases agree with the earlier observations of the author, in which the disease was found in the cord from the dorsal to the lumbar enlargement. He therefore concludes that generally where the knee reflex had entirely disappeared a certain time before death, a particular zone of the posterior columns had become involved. This place he designates the "root-entrance zone" (*Wurzeleintrittszone*). This is bounded internally by a line, which is drawn parallel to the posterior septum from the point where the "substantia granulosa" of the posterior horn forms an angle; posteriorly the periphery of the cord forms the boundary; and externally the limit is the substantia granulosa and the entrance of the posterior root to the apex of the posterior horn. In early or late disappearance of the knee reflex this portion of the cord is always somewhat affected. The degeneration in all cases intrudes from within more or less on this area. In the case where the knee reflex was present till death, it only reached the line; in those where it had disappeared before death the area was generally intensely affected. That atrophy of the posterior roots plays

no part in the production of absence of the patellar reflex is proved by a case where they were atrophied and the root-entrance zone unaffected, in which the knee-phenomenon was present till death, and *vice versa*.

The contemporaneous disease of the lateral columns is not of importance in connection with the appearance of the knee reflex (*Arch. f. Psych.*, &c., Vol. III). By the direct determination of the place in the spinal cord, on degeneration of which the failure of the knee reflex depends, the value of this symptom for the diagnosis of diseases of the posterior columns is not deteriorated.

At the conclusion of his paper the author speaks against the view that such diseases as are illustrated by these two cases are system-lesions (*systemerkrankung*). The irregular distribution of the sclerosis in the lateral and anterior columns does not bear out such a view. Westphal also here refers to Dejerine's opinion that in combined posterior and lateral sclerosis the latter affection owes its origin to a cortical diffuse meningo-myelitis. The absence in every case of chronic lepto-meningitis refutes the correctness of this view.—*Centralblatt f. d. Med., Wissenschaften*, 1886, No. 38, page 679.—J. L. S.

**On the Topography of the Bacillus in Leprosy.** By Dr. K. Tonton, in Wiesbaden.—Some time ago we gave extracts from the German journals, showing that a controversy was raging between certain observers as to the precise situation of the bacillus in the leprous tissues. The present writer seems to differ very conclusively from Unna, to whose paper we formerly referred, but at present we can do no more than simply quote the conclusion to which the author comes. He says:—"I here take the opportunity of finally stating the difference between Unna's position and mine. Unna says: The leprosy bacilli never lie in the tissue-cells. I say: The essential place of development of the leprosy bacilli into colonies is in the cells." The paper is illustrated by a very beautiful and instructive chromo-lithograph.—*Virchow's Archives*, vol. civ, page 381.

**Where are the Leprosy Bacilli Situated?**—In a paper in the *Deutsch. Med. Wochenschr.*, August, 1886, Unna maintains the controversy, and sticks to his guns. He defends his "dry method" of examining sections for the organism, and he emphasises his original position that the colonies are *mostly* not enclosed in cells, by now saying that they *never* are.—*Deutsche Medizinal Zeitung*, 16th September, 1886. No. 75, page 822.

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**ORIGINAL ARTICLES.**

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**SALIVARY FISTULA CURED BY THE GALVANO-CAUTERY.**

By GEORGE BUCHANAN,  
Professor of Clinical Surgery, Glasgow University.

CASES of this kind are sufficiently rare to warrant me in recording an example.

About thirteen years ago, while I was residing in the country during my autumn holiday, I was asked to see in consultation Mrs. G., who was suffering from an enormous carbuncle, which was situated on the left side of the neck below the ear, and extended on to the cheek over the parotid gland. Before I saw it the intense pain and throbbing had already been relieved by a free incision. The patient had a tedious, but satisfactory recovery. But after the parts had almost completely cicatrised, there remained below the lobule of the ear a little sinus, from which a small quantity of semi-purulent watery fluid exuded. I told Mrs. G. that one of the little salivary ducts had been divided, and the fluid was coming away externally, but nothing could be done till the cicatrisation was completed, when, if the little opening had not become closed up, something might be done to secure that.

For some reason or another no further steps were taken as to the little opening, which has continued patent these thirteen years. Every time mastication was performed some drops of saliva issued from the little salivary fistula below the ear.

In October 1886 Mrs. G. returned, and asked if it was too late for anything to be done. Without promising a successful result, I recommended her to submit to a little cauterisation of the mouth of the fistula.

The instrument employed was the galvano-cautery heated by a Faure's accumulator, as described by me in the *Lancet* for July 1881.

The platinum wire loop was shortened and pressed together, so that the two sides of the loop were in contact, and together were not thicker than a small probe. The poles of the battery were connected with the handle of the cautery, but connection with the platinum wires is not completed till the pressing down of a small knob on the handle. The advantage of this is that the wire can be placed on the exact spot in its unheated state, and when held firmly there can be instantaneously heated by pressing the knob.

Accordingly this was done, and the wire, when heated, was passed a short way into the skin at the orifice of the little opening. An eschar the size of two pins' heads occupied its site.

A fortnight after the operation the eschar came off, leaving a little red granulation below, but out of that came a drop of fluid. For some days a few drops of fluid came as before, during mastication, but ultimately it dried up, and the situation of the orifice was occupied by a perfectly cicatrised little dimple. The salivary fistula of thirteen years' duration was thus closed.

## TWO LECTURES ON SYPHILITIC DISEASES OF THE UPPER AIR PASSAGES: THEIR PATHOLOGY, SYMPTOMS, AND TREATMENT. WITH ILLUSTRATIVE CASES.

(Selected from a Course of Lectures delivered during the Summer Session, 1886, at the Glasgow Royal Infirmary.)

By DAVID NEWMAN, M.D.,  
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Nose, Royal Infirmary; Surgeon to the Dispensary,  
Western Infirmary, Glasgow.

(Continued from page 7.)

### LECTURE II (continued).

BEFORE passing to the consideration of treatment, I have a few words to say respecting some of the lesions which may follow upon syphilitic disease; and amongst these I may mention the

formation of membranes, cicatricial bands and adhesions in the larynx, and ankylosis of the crico-arytenoid articulation.

When ulceration in the larynx is not arrested at an early period, it may lead at a later stage to the formation of cicatrices which, by their contraction, cause great distortion of the larynx and to the formation of adhesions and membranes. These conditions result in a hopeless ruin of the voice, and, in some instances, to considerable interference with respiration. At the demonstration you saw a case in which a great portion of the larynx was destroyed, as a consequence of tertiary ulceration, and cicatricial contraction is now taking place. Although the condition you observe now does not interfere with the entrance and exit of air to and from the lungs, the narrowing of the canal which will follow upon the lesion you have seen will lead to considerable dyspnoea, so that it may be imperative to perform tracheotomy without any prospect that the tracheal cannula can ever be dispensed with. Instead of the narrowing of the passage being general, as in the case just cited, a web or membrane may form, and extend from one side of the larynx to the other. In either of these conditions the main symptoms are inspiratory dyspnoea and aphonia, the former increasing as the stenosis progresses; and deglutition may be impeded when the upper part of the larynx is implicated in the disease.

When discussing the general symptomatology of disease of the larynx, I mentioned to you that the specific inflammation may lead to ankylosis of the crico-arytenoid articulations, and consequently to fixation of the vocal cord. This condition is apt to be confused with paralysis. To quote from the remarks I made in speaking of aphonia:—

“As to the possible errors in the differential diagnosis between ankylosis and certain forms of laryngeal paralysis, the following more important points are to be remembered:—An ankylosis in the position of deep inspiration might look exactly like a paralysis of the crico-arytenoideus lateralis muscle; an ankylosis in the cadaveric position like a paralysis of the entire recurrent nerve; an ankylosis in the phonatory position like a paralysis of the posterior crico-arytenoid muscle. Especially I wish to draw again attention to the most important of all—namely, the differential diagnosis of bilateral paralysis of the posterior crico-arytænoid muscles from the bilateral ankylosis in the phonatory position. The laryngoscopic examination may reveal exactly the same state of things; the subjective symptoms are the same; the same diseases, especially syphilis, may lead to both; yet they are

essentially different from each other in pathology, in importance, and in treatment. The presence of tumefaction about the bases of the arytenoid cartilages, evidence of other cicatricial contractions in other parts of the larynx, and the results of different methods of treatment, may in such cases establish the diagnosis; in other instances, however, the true nature of the case will only appear *post-mortem*.

"The danger to life in such cases may be said to depend upon the position in which the joint is ankylosed and the amount of swelling and induration of the tissues. In all cases the prognosis should be guarded, and when there is much obstruction to respiration, tracheotomy may be called for."

We now come to the consideration of treatment, and in discussing this part of the subject, I shall not occupy your time more than a single minute with constitutional remedies, but will pass to the treatment as specially applied to the localities at present under our notice. Doubtless you have already been instructed by your teachers in surgery of the necessity of careful management of syphilitic cases by attention to hygiene, regulation of diet, attention to the secretions, and the administration of tonics. All these must be attended to, otherwise the administration of specific remedies may fail to effect a cure. I may here make one general statement in respect to the treatment of specific disease of the upper air passages—viz., the use of tobacco, in all its forms, must be strictly forbidden in consequence of its irritant effect upon the mucous membrane of the parts. I have seen cases where mucous patches have persisted for long periods, after constitutional treatment has been employed, as a result of the continued use of tobacco, and as soon as the patient gave up smoking the mucous patches slowly disappeared. I have mentioned this example only as one instance, but am convinced that in all syphilitic lesions affecting the localities now under consideration, the use of tobacco has a decidedly bad effect. Respecting the general use of mercurial preparations, and of iodine and its compounds, I take it for granted that you are already informed; but here it may be observed that in obstinate affections of the nose, pharynx, and larynx, the local application of mercury, or of iodoform, gives excellent results. The former may be exhibited by means of a steam spray, a solution containing one part of bichloride of mercury to five hundred of water being employed. The latter may be insufflated along with equal parts of powdered gum acacia. Local treatment, while undoubtedly secondary in importance to constitutional, may, when carefully regulated, greatly facilitate cure, and

may, as I will point out presently, prevent serious deformity. My first remarks will apply to the local treatment of syphilitic disease in its early stage.

Chancres of the lips, gums, or tonsil, usually run their course without calling for any special treatment. It is now admitted by all the most competent observers that chancre is not merely a local lesion, and consequently destructive cauterisation is of no avail as an agent for preventing constitutional infection. The same statement is true in respect to excision of chancres. This method of treatment, adopted with the view of aborting syphilis, was practised in early times, and has again been revived by Otis, Kölliker, Auspitz, and others, but without results sufficiently satisfactory to demonstrate the efficiency of the operation. Local treatment should be limited to keeping the parts at rest, covering the ulcer with a piece of lint moistened with "black wash," and changing it four or five times a day. Mercurial treatment should not be employed unless the chancre shows a tendency to spread extensively, or when it occasions pain. By avoiding the use of mercury until the secondary symptoms appear, more benefit results from its administration. In the meantime, however, preparations of iron, iodide of potassium, and cod liver oil, should be given, in order to combat the anaemia existing in the early stage of syphilis. By the judicious use of such tonics the secondary manifestations may be reduced in severity. When these appear mercurials must be at once resorted to. In last lecture, I told you that one of the earliest secondary manifestations was erythema, which usually attacks the mucous membrane of the air passages, at the same time that the cutaneous surface is the seat of roseola. This disease is generally very amenable to constitutional treatment. Exertion of the voice and exposure to cold and damp should be carefully avoided, and the affected parts should be sprayed with a solution containing iodide of potassium and iodine—of each 15 grains, glycerine half an ounce, and water two ounces. This application I have found beneficial when associated with constitutional treatment. Papules, condylomata, and mucous patches must be treated according to their situation. They may arise simultaneously with simple catarrh, and are amenable to practically the same treatment. It is only when the new formation occupies the larynx that active surgical interference may be called for. In a patient (Mrs. M'L), whom I showed you at last lecture, the obstruction to inspiration was so great at the time of her admission that I expected every hour to be called upon to perform tracheotomy. Under

treatment, however, the obstruction is gradually becoming absorbed. Condylomata, when large in size, may be destroyed by the repeated application of solid nitrate of silver, or by the electric cautery, and while the cauterised surface is healing, the patient should be directed to use inhalations of iodine vapour, or the spray of solutions of iodine in iodide of potassium.

Up to the present time, my remarks in respect to treatment have applied to lesions not associated with destruction of tissue. When ulceration has commenced, it is imperative to check the disease as speedily as possible. By losing even a few days, changes may be allowed to occur which may deform the features; and when the disease involves the larynx, the delicate mechanism of that organ may become so deranged as not only to destroy the voice, but directly threaten the life of the patient. The importance, therefore, of prompt and efficient treatment cannot be over-estimated. The first step in the treatment of secondary ulcerations is to get the patient under the influence of mercury, and this is most rapidly done by the subcutaneous injection of corrosive sublimate for the first two days, after which the action of the drug may be kept up with the calomel bath combined with the inhalation of the vapour. Mercury may be applied locally in other ways—for example, by inhalation of spray consisting of a weak solution of perchloride of mercury with chloride of ammonium, or by insufflation of calomel.

When there is much local irritation, it may be reduced by warm inhalations or anodyne sprays. While constitutional treatment is being carried out, care must be taken to prevent stomatitis, and this is most effectually done by washing the mouth frequently with a weak solution of chloride of potassium and borax—of each 15 grains to the ounce of water—and by brushing the teeth regularly with a disinfectant solution. If the fœtor is bad, the parts may be cleansed with weak solutions of carbolic or salicylic acid.

While speaking to you of secondary ulceration, I stated that the destructive process does not, as a rule, spread deeply unless the constitution of the patient be unduly deteriorated. In some instances, however, secondary ulceration may lead to considerable destruction of tissue. At last lecture, I showed you such a case (Mrs. M.), and then said that I would refer to the case again. When ulceration is spreading rapidly, even under constitutional treatment, and the local remedies which I have already referred to are employed without effect, can anything further be done to retard the progress of the ulcer? In situ-

ations where it can be applied, nothing is more efficacious than the free use of the pharmaceutical liquor hydrargyri nitratis acidus, or where it cannot be used the thermo-cautère or the electric cautery should be called into requisition. The acid nitrate of mercury acts as a powerful and energetic caustic, and must therefore be employed with great care. Before it is applied, the ulcer and surrounding parts should be anæsthetised with cocaine, and any slough removed from the ulcer. The part to which the caustic is to be applied should then be carefully dried with absorbent cotton wool, and the caustic solution applied by means of a brush or small piece of sponge, great care being taken that none of the caustic touches any other part than that intended. Another plan which may be adopted is to take a pencil of soft wood and char it at one end. The charred surface absorbs the fluid caustic, and retains it sufficiently to prevent any danger of drops falling off. Immediately after the caustic has taken effect the parts should be doused with an abundant supply of lukewarm water. This procedure checks the ulceration at once, and can be resorted to for ulcers situated upon the tongue, tonsils, pharynx, &c.; but when the ulcer is in the larynx or nose, the electric cautery or thermo-cautère should be used instead.

When the ulcer is situated in other parts than the soft palate, little can be done to prevent deformity, but when in this situation, and perforation has taken place, it is of importance to have the opening diminished as much as possible. If left to itself it may remain stationary, or, what is more common, the perforation may perceptibly diminish as a consequence of cicatricial contraction, but notwithstanding air and fluid continue to pass between the oral cavity and the posterior nares. If, while the wound is still granulating, an accurately fitting palate plate be adjusted, it is wonderful how the granulations will creep along the upper surface of the false palate and ultimately completely close the orifice. The obturator not only prevents the passage of air and fluid through the abnormal opening in the palate, but it also acts the part of a splint, keeping the parts at rest, and, moreover, forms a platform along which the granulations from the sides of the ulcer may spread and ultimately meet. From what I have said you will infer that the false palate must be applied as early as possible. It should be fitted to the palate in secondary syphilis as soon as the ulcer has ceased to spread, and in tertiary, as soon as diseased bone, if present, has come away. If the edges of the opening have recently cicatrised, they should be rawed either by the application of the thermo-cautère, or by scarification.

By the employment of such methods of treatment I have seen considerable openings completely closed, whilst if they had not been resorted to the patient would have continued to suffer from all the ill effects of perforate palate. I have mentioned this application of obturators under the treatment of secondary ulceration, and by doing so, I may have led you to believe that secondary ulceration frequently leads to perforation of the soft palate. As a matter of fact this is not so. It is in the tertiary period that obturators are most frequently required.

We now come to the treatment of the lesions of the tertiary period. In last lecture I stated that the tertiary stage of syphilis was chiefly characterised by the formation of gummatæ, which, on account of their low vitality, tend to ulcerate. So long as the gunnia remains unbroken the treatment is that of syphilis generally—viz., iodide of potassium in full doses. It is only when the gumma, by reason of its bulk or situation, causes obstruction to laryngeal breathing that active surgical treatment is called for. Those of you who attended my class last year will remember a patient who suffered from a gumma on the right side of the larynx, and in whom aphonia was caused partly by the presence of the growth and partly by paralysis of the abductor muscles on the left side. She also suffered from great dyspnæa, caused by the closure of the glottis by the specific new formation. Tracheotomy was performed, and, after anti-syphilitic treatment had been employed for a fortnight or three weeks, the obstruction had so far disappeared as to permit the removal of the tracheal tube. In this case the gumma never broke down, and now the only remnant left of it is slight thickening over the right arytenoid cartilage. But while this favourable result may be looked for in a certain number of cases, in many others—especially those patients who do not seek advice until the gumma has begun to caseate—a deep, excavating ulcer, containing the gangrenous gumma, may form. This condition may call for special local treatment, first, on account of its destructive nature, and second, because of the foulness of the discharge when it has become contaminated by the secretions of the mouth.

The tongue is the most common seat for syphilitic gummatæ. In this situation the formation may remain indolent for a considerable time, showing neither a tendency to extend nor to spontaneously disappear. On the other hand, phagedenic inflammation may set in and destroy large portions of the organ. When a large ulcer has formed in this situation, one of the best applications to employ is iodoform. It not only

prevents the disagreeable foulness of the discharge, but also acts beneficially upon the sore. The surface of the ulcer should be carefully dried and packed with a powder containing equal parts of iodoform and powdered gum acacia. In obstinate ulceration, either in the tongue or elsewhere, I have found benefit result from freely scraping the surface with Volkmann's spoon, and afterwards either cauterising it with thermo-cautère or applying acid nitrate of mercury; after which soothing applications, such as honey and borax with a little cocaine, may be used with advantage. When this treatment is adopted for ulceration in the nasal cavities great care must be taken, as death has occurred from haemorrhage while the surgeon was scraping out the nasal fossæ of a patient suffering from syphilitic necrosis.

Very stubborn cases of ulceration, which have resisted anti-syphilitic treatment, should always be looked upon with suspicion, as epithelioma may develop on the site of a syphilitic ulcer. I have not seen such a case, but a few have been recorded. We know that epithelioma is liable to develop upon old cicatrices. A few days ago I saw an old woman at the Western Infirmary Dispensary with a large epithelioma developed upon the scar of a burn which she received when a child, and in May last my colleague, Dr. David Knox, showed a patient at the Glasgow Pathological and Clinical Society presenting a growth of a similar nature. The patient was aged 55 when the epithelioma formed on the hand on the site of the cicatrix of a burn nearly as old as the man himself. In view of the fact, which I think is undoubted, that long continued local irritation may act as the exciting cause of cancer, it is only fair to admit, upon the evidences which we have, that a malignant growth such as an epithelioma may form on the site of a specific inflammatory new formation, such as a tertiary ulcer or gumma. I mention this possibility, not that it is common, but that it should, in certain cases, be held in view.

At last lecture I described and illustrated some of the graver lesions of the nose, and showed you how great deformity might result from destruction of the bones of the face, &c. When bone is not involved, constitutional treatment, associated with local cleanliness, which may be attained by the use of the douche, is usually sufficient to effect a cure; but, in some cases, the application of mercurials to the parts may be required before a cure is effected. If, however, diseased bone be detected, one cannot look for much reparative

action until the bone which acts as a foreign body has been removed. This naturally suggests the question, When should attempts be made to remove syphilitic necrosed bone? A rule I would lay down is, unless the bone is perfectly free, no attempt should be made to remove it, until constitutional treatment has been thoroughly carried out. Forceful removal of sequestra before the bone disease has become limited, is very liable to lead to considerable extension of the disease. The less the surgeon interferes with the bone during the period of separation the better, as it is impossible for him to know the limits of the necrosis. Goodwillie introduces the burr of the dental engine through the nostril, and grinds away all the dead bone, and thus, as he believes, removes, at as early a period as possible, the dead bone, which is a constant source of irritation. I would not like to affirm that in no cases such treatment should be adopted, but I certainly think that it is a much safer procedure to allow nature to draw the limits of the disease.

While spontaneous separation is taking place much patience will be required, as the utmost the surgeon can do is to attend to the patient's general health by regulating his diet, by administering tonics, and attending to general treatment calculated to support him against the depressing influences to which he is subjected. The discomfort of the patient and of those around him may be greatly diminished by using disinfectant solutions, containing such substances as carbolic acid, salicylic acid, carbolate of soda, or permanganate of potassium, either with the nasal douche or nasal syringe. The nasal cavities should be carefully washed out at least three times a day, and after the cleansing process has been completed, the parts should be dusted over by means of Rauchfuss's insufflator with a powder containing iodoform.

This treatment must be persisted in until the sequestrum has become detached, which may be ascertained by the occasional use of the probe; and when free, the bone may be extracted by polypus forceps. When the piece of bone is small its removal is usually a simple matter. It is not so easy when the necrosed bone is large, or when it is in a situation so as to be obscured from view, and beyond the reach of ordinary methods.

A great difficulty one has to contend with is the small space afforded for inspection or manipulation by reason of the narrow aperture of the anterior nares. Several methods have been suggested to overcome this difficulty. I will mention only three of them. The first is to open the nostrils along

the line of union of the alæ with the cheek, the second is to divide the middle line of the nose and to reflect the alæ on one side or on both, as may be required. The serious objection to both of those methods is that they leave a cicatrix on the face, and consequently cause more or less disfigurement; hence a third method has been proposed by Rouge. The plan he adopts is to dissect up the upper lip and nostrils together by an incision through the mucous membrane of the mouth. The cartilages are divided from their attachment to the superior maxilla, and by retracting the upper lip and upper part of the face, the bony anterior nares are completely exposed, and a very satisfactory view is obtained of the nasal fossæ, while a considerable space is afforded for the introduction of instruments.

When a portion of bone has to be removed, the surgeon should, as accurately as possible, ascertain its anatomical relations. This is not always easy, and even after the fragment of bone has been removed, it may be difficult to recognise. When important structures, for example, arteries and nerves, pass through the affected bone, care must be taken. Fortunately, long before spontaneous separation takes place, the blood-vessels become occluded by thrombi, so that hæmorrhage is prevented. I have, for example, removed the palate bone, including the portions through which the sphenopalatine artery passes, without the loss of more than a few drops of blood. This was done after the palate bone had spontaneously separated, but if an attempt had been made to remove the bone a few weeks sooner, the patient would have run considerable risk of hæmorrhage from the vessel just named.

Again, when the diseased bone is situated high up in the nasal fossæ, in its removal extreme caution is required on the part of the surgeon, on account of the close proximity of the disease to the cranial cavity. Thus, even although not itself diseased, the cribriform plate of the ethmoid bone may be injured by rough handling, and if torn or broken, the injury is very liable to be followed by local or general meningitis.

The cicatrices which form upon tertiary syphilitic ulcers have a great disposition to contract, and where the tissues are not supported upon a bony framework, stenosis may result from constriction or obliteration of the lumen of the passage. In other parts than the larynx or trachea, this change does not necessarily call for operative interference, but when in these situations it may give rise to serious impediment to

respiration, by the formation of bands or membranes, or by a general narrowing of the glottis. For the treatment of these strictures various plans have been resorted to; they may be divided into three classes; first, dilatation after tracheotomy has been performed; second, dilatation by passing tubes into the larynx through the mouth, without the performance of tracheotomy; and third, section of the stricture by a tenotome, or by an endo-laryngeal electrode.

When the stricture is close, dilatation cannot be effected without previously opening the trachea below the point of constriction, but in a few exceptional cases in which the occlusion of the canal is moderate, the necessary manipulation may be gone through without tracheotomy.

Bouchut, about 1858, introduced what he termed "tubage" of the glottis for the treatment of stenosis consequent upon acute inflammatory conditions, and this practice has been followed in an improved form by Trændelenburg, by Weinlechner, and by Schrötter. But while those foreign authorities are doubtless the first to advocate this mode of treatment, it is only right to mention that in our own country, Liston, as far back as 1828,\* published a case of successful dilatation of the larynx by means of bougies introduced in very much the same way as now advocated by more modern teachers; and, in 1880, my colleague, Dr. William MacEwen, published a collection of interesting cases in which he had used tracheal tubes, instead of performing tracheotomy or laryngotomy.

I may now explain to you shortly the three methods I have mentioned. The first of these, you will remember, is dilatation of the larynx after tracheotomy has been performed. Special dilators have been adapted for introduction both through the tracheotomy tube and through the mouth; the dilator being passed into the larynx from below upwards in the first method, and in the second, from above downwards.

Mackenzie and Navratil have each devised and employed screw dilators for the purpose of distending the larynx rapidly. Tracheotomy having been performed, the dilator, consisting of three blades, which, united together, form a small compact rectangular instrument, is easily introduced into the constriction. The screw handle is then turned, the segments are thereby drawn apart, and thus rapid distention is effected. Schrötter, Stoerk, and M'Sherry have used an instrument similar to Mackenzie's, but instead of introducing it by the mouth, they dilate from below through an opening on the upper aspect of the tracheotomy tube. These are all rapid

\* *Edin. Med. and Surg. Jour.*, vol. xxix.

methods of dilatation, and have not given very satisfactory results on account of their liability to excite acute inflammation in the dilated parts.

Gradual dilatation by means of bougies or dilating plugs has been more successful. Like the rapid dilators, they may be passed either from above or from below. When the constriction is high up, and very close, considerable difficulty may be experienced in introducing bougies by the mouth. In a patient who was operated upon by my friend, the late Dr. Foulis, and who subsequently came under my care, I found it impossible to introduce even a No. 4 urethral bougie from above, whereas, *via* the tracheotomy tube, a No. 12 or 14 could with ease be passed, and eventually by introducing larger sizes of instruments, the patient was enabled to breathe freely, and to carry on a conversation in a whisper. Bougies may be made of various materials—hard rubber, or tin, or flexible gum-elastic, and their form may be round, oval, or, as recommended by Schrötter, triangular. Before attempting dilatation the parts should be anæsthetised, the finger introduced into the mouth, and the epiglottis pressed forward. The bougie may then be guided along the finger. The introduction of the bougie should be repeated daily, larger instruments being employed in succession, and allowed to remain in position as long as possible.

Undoubtedly, one of the most effective methods of dilating the larynx is that introduced by Schrötter. The plan pursued by him is to introduce triangular plugs of lead or tin, each about four centimetres long, and from six to sixteen millimetres in diameter. The metal plug has a ring at its upper part, while at its lower extremity there is a little groove, or hollow, crossing it obliquely, and by which it may be fixed or bolted to the tracheotomy tube. These plugs are introduced into the larynx by a handle through the mouth, and as soon as the plug has been secured to the tracheotomy tube, the handle is withdrawn, and a thread, previously attached to the little ring in the upper part of the plug, is brought out between the teeth and fastened externally. When the plug requires to be withdrawn, the bolt in the tracheotomy tube should be relieved, and by traction upon the thread the plug is removed. The plug should be retained in position as long as possible. At first an hour or two may be all that can be borne, but after a time it may be allowed to remain in position for several consecutive days. When dilatation is complete, the external tracheotomy wound may be allowed to close; but after this has taken place, hollow bougies must be introduced

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into the larynx at regular intervals, for the purpose of preventing subsequent contraction.

For the division of bands or webs within the larynx, either the galvanic electrode or Dr. Whistler's cutting dilator may be employed. The galvano-cautery, usually considered a safe instrument to employ, is not always so. In a case recorded by Heinze, where he divided an adhesion between the epiglottis and the pharynx, haemorrhage occurred to such an extent that ligature of the external carotid artery had to be performed.

Lately I had an accident of a more serious nature. A lady consulted me, and on examination, I found that there was a web extending across the upper part of the larynx, of such a size as to form a diaphragm with an opening only sufficient to admit a No. 12 urethral catheter. This membrane caused considerable obstruction to respiration, and complete aphonia. By the electric cautery I divided the membrane in two places, increasing the size of the opening considerably, so that in a few days, when the inflammatory swelling, caused by the operation, had subsided, the patient was able to speak in a hoarse voice. Six days after the first operation, the electric cautery was again introduced, and the part of membrane loosened by the previous incisions was removed. After the second operation respiration was very free, and the patient stated that she could speak with much greater ease. In the evening she looked remarkably well, and on laryngoscopic examination, a good view of the interior of the larynx was obtained, and nothing was observed to lead one to suspect danger. About six o'clock on the following morning, the nurse in attendance sent for me with the message that the patient was extremely ill. When I arrived at the house, I found that she had taken a sudden paroxysm of dyspnoea, and died within a few minutes. The nurse informed me that she had been talking to her a short time before, and did not complain of any difficulty in breathing. Death seems to have been due to a sudden spasm of the adductors. I have mentioned this case as a warning. If I had performed tracheotomy previous to the endo-laryngeal operation the patient would, in all probability, have been still alive. What I feared was not spasm, but inflammation, and I was careful to take all necessary precautions. I told the patient that there might be some danger in performing the endo-laryngeal operation without tracheotomy, but she so strongly objected to it that I unwillingly consented to operate without opening the trachea. It is not always easy to say which endo-laryngeal operations should be preceded by tracheotomy. It is called for only in a

few. In the great majority it would be quite superfluous. Then, again, we have always tracheotomy to fall back upon should any reason arise; usually interference with respiration comes on gradually, but in the case just mentioned to you no warning note was sounded.

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## ON INOCULATION FOR SMALL-POX.

BY HUGH THOMSON, M.D., GLASGOW.

(Continued from page 14.)

THE discovery of the cow-pox inoculation by Jenner, as a substitute for small-pox inoculation, commenced a new era in the history of the invention, and was as great an advance upon it as small-pox inoculation had been upon the casual disease. Vague opinions regarding the prophylactic power of cow-pox over small-pox prevailed in the dairy district of England, where Jenner practised, opinions which, from what he himself had seen, he shared, and he resolved to put them to the test of experiment. After much laborious research, he had the great satisfaction of determining—1st. That, “duly and efficiently” performed, it is as protective as small-pox inoculation itself. 2nd. That it loses none of its prophylactic power on transmission and re-transmission from one human subject to another. 3rd. That it is attended with so little suffering or danger to the subject that it could be had recourse to on a new-born infant. And, 4th.—what could scarcely have been anticipated when he began his investigations—that it had the distinguishing excellence of not being transmissible except by inoculation, and thus required no separation of the affected from the healthy, as was necessary in small-pox inoculation.\*

Although vaccination is a complete protection from small-pox, it was soon found that in many cases, after a longer or shorter time, a greater or less degree of the susceptibility to small-pox was regained; that whereas in some the insusceptibility appeared to be permanent, in others it seemed to be almost if not entirely lost after a few years; and it became an

\* So sudden a revolution did it make that Dr. Woodville, who had published the first volume of his *History of Inoculation* in 1796, does not appear to have thought it worth while to bring out the second, although from an advertisement in his *Observations on Cow-pox*, 1800, it was then “nearly ready for the press,” which, considering the ability already displayed in the first volume, must be a lasting regret.

interesting point to determine upon what the differences depended. An inquiry into the matter was instituted by the late Mr. Marson, of the Small-pox Hospital in London, with the view of determining how far they seemed to be owing to the manner in which the vaccination, judged by the character and extent of the resulting scars, had been performed. The following Table, issued by the Local Government Board, shows the result of the inquiry so far as regards the deaths, but it would have been more complete had it shown also the ages of the vaccinated, and had distinguished the mild from the severe attacks, as well as those which proved fatal:—

STATISTICAL EVIDENCE OF THE DIFFERENT DEGREES IN WHICH PERSONS VACCINATED IN DIFFERENT WAYS WILL BE SAFE AGAINST DEATH BY SMALL-POX, IF THEY SHOULD HAPPEN AFTERWARDS TO CONTRACT THIS DISEASE.

The Table is founded on information given to the Medical Officer of the Local Government Board by Mr. Marson, Surgeon of the Small-pox Hospital, as the result of his observations made during 25 years in nearly 6,000 cases of post-vaccinal small-pox.

Cases of small-pox classified according to the vaccination marks borne by each patient respectively.	Number of deaths per cent in each class respectively.
1. Stated to have been vaccinated, but having no cicatrix, . . . . .	21 $\frac{1}{2}$
2. Having one cicatrix, * . . . .	7 $\frac{1}{2}$
3. Having two cicatrices, † . . . .	4 $\frac{1}{2}$
4. Having three cicatrices, . . . .	1 $\frac{1}{2}$
5. Having four or more cicatrices, . . . .	4
Unvaccinated, . . . . .	35 $\frac{1}{2}$

\* Among cases in which the one cicatrix was *well marked* the death-rate was 4 $\frac{1}{2}$ . Among cases in which it was *badly marked* the death-rate was 12.

† Among cases in which the two cicatrices were *well marked* the death-rate was 2 $\frac{1}{2}$ . Among cases in which they were *badly marked* it was 7 $\frac{1}{2}$ .

NOTE.—“A good vaccine cicatrix may be described as distinct, foveated, dotted, or indented, in some instances radiated, and having a well, or tolerably well, defined edge; an indifferent cicatrix as indistinct, smooth, without indentation, and with an irregular and ill-defined edge.”—Marson.

The table is a monument of Mr. Marson's industry and acumen, and subsequent observations have only confirmed the accuracy of his.

It is, however, to be regretted, considering the importance of the question, that advantage has not been taken of the

machinery employed in the registration of deaths and their causes, to have had it answered in a still more exhaustive manner, by requiring the certificate of the cause of death from small-pox to state the character and extent of the vaccination-marks, which are unquestionably the best evidence of the sufficiency of vaccination, next to having watched its progress from beginning to end.

Nevertheless, it is still a disputed point what should be regarded as the standard of what Jenner called “duly and efficiently vaccinated.”

That required by the Local Government Board of England in making awards for efficient vaccination is as follows:—“The scars produced by the vaccinator must be thoroughly well marked in their foveation, and have collectively a total area of at least half a square inch.” We are not aware what standard, if any, is required by foreign governments. M. D’Espine\* thinks six scarifications, from two to three millimetres long, three on each arm; and M. Duclaux,† who, we may presume, represents French opinion, says the total area of the scars should be three or four square centimetres, which, roughly stated, amounts to 108 or 144 square sixteenths of an inch. In Germany the practice recommended, if not enforced by law, is to make six insertions on each arm, at such distances apart that the areola of each insertion shall be distinct from the others.‡ What the aggregate area of the cicatrices, resulting from the twelve insertions, may be, is not stated. This seems to be a very thorough mode of proceeding. It is to be regretted that we have no statistics showing whether the protection thereby obtained is proportionally lasting. In this country, where the aim with many is to minimise the vaccination as much as possible, consistent with the observance of the law, such a mode of operating would scarcely be practicable, except in a few instances. But as the fewer the “places” the better, in the eyes of the people, without much regard to their size, it is expedient to make the insertions larger if fewer, and thus obtain efficiency without offending prejudices.

Our practice for some time back has been to make four insertions on one arm, at such a distance apart from each other, that the resulting vesicles of each insertion shall remain

\* *Dictionnaire de Médecine et de Chirurgie*, Art. Vaccine, tome xxxviii, p. 54.

† *Op. cit.*, p. 154:—“Il doit donner des marques larges, ayant dans leur ensemble une surface de trois ou quatre centimètres carrés.”

‡ Ziemssen’s *Cyclopædia of the Practice of Medicine*, Art. Vaccination, p. 415. Curschmann.

distinct from those of the others, whilst each insertion consists of three punctures so close together, that the resulting vesicles shall become confluent. The examination recently made of the resulting scars in ten cases taken at random, two months after vaccination, gave an average area of 104 square sixteenths of an inch, the minimum being 88, and the maximum 140, which, as will be observed, is pretty nearly that recommended by M. Duclaux; whilst as regards the number of punctures, we approach the German requirements as much as practicable.

It does not appear, from anything that has been recorded of the practice of inoculation with variolous matter, that susceptibility to small-pox returned after a certain lapse of time, with such regularity or to the same degree, as has been observed after vaccination. That this difference arose from a more thorough impregnation of the system and consequent more thorough change by variolous than by vaccine inoculation, seems evident from the greater absorption of the matter and consequent greater general affection which take place in the former than in the latter. It therefore appears reasonable to suppose that any method of operating which would increase the general affection, when inoculating cow-pox would tend to make the protection more lasting, and if this could be done without adding to the suffering and danger of the patient, must be correspondingly advantageous. It is in this way that the more extended insertion of the virus has seemed to us to be followed by more permanent effects. For the same reason it has appeared to us that the mode of operating by puncture or incision, which bring the virus in more direct communication with the lymphatics of the skin, is preferable to simply scratching or abrading the surface. In vaccination we have no occasion to fear, as used to be the case with inoculation, too great and too early an infection of the blood. On the contrary, it is the very thing we desire. Our mode of proceeding, which in many points resembles that of Gregory, Bousquet, Marson, and other experienced vaccinators, is as follows:—

Having the charge of lymph on that side of the lancet which is to be uppermost, and so near to the point that the point itself is wet with it, the vaccinator grasps the arm of the child, encircling it completely with his fingers and thumb, and, by a sliding movement of the thumb, puts the skin on the stretch sufficiently to expel all blood from the capillaries, then holding the lancet between the forefinger and thumb of the other hand and resting the remaining fingers on the outside

of the child's arm, he makes three punctures obliquely in the skin, about an eighth of an inch apart on the same level, giving the point of the lancet a slight downward movement, so that he feels that it fairly penetrates the derma. He then makes, on the same level, at the distance of from half an inch to three-quarters, three similar ones, then three others the same distance below the first, and three more the same distance below the second group. The skin being held on the stretch the whole time of the operation, which need not occupy more than ten seconds, no blood appears until it is finished. The object of the operator is to insert the lymph deep enough to be beyond being washed away by the blood. In this way a precision and uniformity as to results are secured that we have not been able to obtain by any other method. Failure to vaccinate at the first attempt is scarcely ever witnessed, and failure of even one of the twelve punctures almost equally rare. Any differences in the result are fairly traceable to differences of susceptibility and other peculiarities of the vaccinated. Whether scattering the insertions over a larger area and on both arms, after the German mode, be followed by more lasting protection, in the absence of statistics, it is impossible to say, but there is an obvious difficulty in adopting that method in the case of babies in arms, from the greater liability of the vesicles to be broken. This, of course, would not be so much felt in Germany, where the law does not require that the child should be vaccinated before the termination of the calendar year following the year of its birth.

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**CASE OF SPINA-BIFIDA—CURE OBTAINED BY A  
NEW METHOD AFTER RUPTURE OF THE SAC.**

BY JAMES F. DAVIDSON, L.R.C.S. Edin.

IN March, 1885, Mrs. D. was delivered, after a normal labour, of a male child considerably above the average weight. A spina-bifida was at once detected in the situation the most common for these—viz., the lumbar.

There was also a most marked tendency to talipes varus, a condition frequently associated with spina-bifida.

The tumour which, it might be said, consisted of two parts, covered the region occupied, or supposed to be occupied, by the fourth and fifth lumbar vertebræ. The base was firm and

fleshy to the touch, and was covered by subcutaneous tissue and skin apparently of a normal kind. It was raised about three-fourths of an inch above the general surface, and was about four inches in diameter. Surmounting this part of the tumour, which might be called the pedestal, was the other portion, which contrasted strongly, both in appearance and consistency, with the former.

Situated on the plateau already indicated, by a base which was no more than two inches in diameter, it rose to a height of about one and a half inches. To give a better idea of the appearance presented by the tumour would be difficult without the aid of a diagram. It resembled much the appearance of half an egg inverted on an overturned saucer.

This upper portion was translucent and of a greyish colour. Fluctuation was very evident, for the wall of the sac was composed of tissue of the flimsiest kind, covered with very thin skin with epidermis.

No nerve fibres could be detected in the sac.

Means were taken for the protection of the sac from pressure, but despite the greatest care it ruptured on the third day after birth. The site of the rupture, about one inch long, was near the rounded apex of the now collapsed tumour. The edges of the tear were closely approximated, but between them oozed the cerebro-spinal fluid. A pad and a firm bandage were applied to prevent the outflow, but unsuccessfully, the fluid saturating all the coverings, and thus reaching the surface. It may be mentioned, though the reason is obvious, that as the child lay quiet the fluid only oozed forth, but when it cried or moved it fairly welled from the wound. At the end of a week, convulsive twitchings of the limbs supervening, stronger means were indicated if the child were to be saved.

As it was supposed that the continual flow of the fluid prevented the edges uniting, this fact was kept in mind in the method of dealing with the case. To prevent the escape of the fluid, and at the same time to have a link of connection between the edges of the wound, were the objects aimed at.

The following plan achieved these most successfully:—

A piece of ordinary sponge was steeped for a few hours in  $\frac{3}{4}$  of the ordinary dilute hydrochloric acid of the B.P. From this a thin shaving, about the thickness of half-a-crown, was taken, and its edges trimmed so as exactly to fit the wound. After steeping the sponge in a  $2\frac{1}{2}$  per cent solution of carbolic acid, it was inserted between the lips of the

wound well into the cavity, the edges of the sponge and the surface of the wound being in the same plane. Over the part was placed a piece of protective silk, all being fixed by adhesive plaster. On the elapse of three days the coverings were removed. Granulations were seen extending into the slice of sponge from each side, and only on minute examination could a trace of fluid be found to be escaping. The part was again covered up as before and opened once more at the end of a week. It was then found that the granulations had covered in completely the sponge, no part of which was visible, and not a trace of fluid was found escaping. A few days later, examination showed the wound to be entirely healed and covered by healthy-looking epidermis. The child was not again seen for eight or nine months, when it was enjoying good health.

Latterly it has passed beyond the writer's ken.

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## ORIGINAL RESEARCH IN SANITARY SCIENCE.—THE ARTIFICIAL CULTIVATION OF VACCINE LYMPH.

By JOHN DOUGALL, M.D., F.F.P.S.G.,

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[Competitive Essay for Grocers' Company, London. First Quadrennial Discovery Prize of £1,000, 1883-1886.]

*(Concluded from page 35.)*

ONE would have thought that in the course of 118 experiments, each differing in some respect from all the others, success would even have been stumbled on; but as I deem the results absolutely and entirely negative, I shall now summarise the conditions from which these results flow, and endeavour further to deduce therefrom the probable cause of non-success.

1st. *The Soils*.—The great majority of these were constituted chemically and physically as nearly as possible like vaccine serum—all were alkaline except two or three neutral—all but the few pure gelatine cultures contained albumen;

all were used *per se*, and most in mixture with each other, and several with a few harmless extraneous bodies, added in minute proportion. So far, then, as it seemed to me practicable to concoct a fluid resembling vaccine plasma, that was done.

2nd. *Sterilisation*.—If absolute sterilisation is indispensable to success, then the partial and non-sterilisation of many of the soils account for their failure. But the facts already adduced regarding the reproduction of vaccine cells in the animal body in the presence of foreign matters, make me doubt this. However, I am satisfied that a considerable number of the soils were thoroughly sterilised, and whatever opinion may be held regarding the action of glycerine on the soils, it should always be remembered that vaccine cocci retain their vitality while mixed with it.

3rd. *The Seed*.—It seems to me that in no instance can failure be attributed to the seed, especially to the fluid lymph.

4th. *Methods of Sowing the Seed*.—Although various methods were adopted, I believe that if the conditions of soil, temperature, air, and moisture suitable for reproduction are present, mere contact with, or deposition of the seed in the soil is sufficient.

*Temperature during Incubation*.—Whether vaccine cocci require a different temperature for their artificial multiplication from that under which they increase in the animal body, the experiments have only shown that under their conditions they do not propagate between 70° and 98°. Possibly, though I think very improbably, a higher temperature might have been more conducive to success. This, however, is certain, although not perhaps to the point, that, as the experiments show, another species of coccus multiplies freely at that thermal range.

*Modes of Incubation*.—Whatever mode is used, the important points obviously are to keep the temperature uniform, and the cultures moist. I feel sure that although there were slight occasional variations of the temperature, and always some drying of the soils, yet in nearly all the experiments these were too trivial to cause failure.

*The Period of Incubation* is undoubtedly an important factor in the multiplication of all micro-organisms. I am inclined to think that as I had diminished it in many cases from 7 days, I might have also increased it more than was done in some others, yet it seems highly probable *caeteris paribus*, that as vaccine cells mature in 7 days in the body at

98°, they would also mature in the same time and at the same temperature out of the body.

*Results of Incubation.*—These results might be stated briefly by saying—death of the vaccine cocci, and growth of another harmless species of the same genus. However closely the cocci of the cultures resembled vaccine cells, they were obviously not such, or if so, they had become so physiologically degenerated, or so finely attenuated, as to be practically deprived of their special virulence. It seems to me, however, much more likely that they were pathogenic in their nature, and if so, it is curious to consider how they should in most cases multiply so freely under conditions decidedly inimical to the growth of vaccine cocci, bacilli, and bacteria.

I deem it most improbable that these cocci of the cultures could, by themselves at least, prevent the proliferation of the vaccine cells, seeing they caused no irritation by vaccination, and that they are undoubtedly present more or less in the impurities already referred to, with which active vaccine lymph is apt to be mixed. Whether vaccine cocci are ærobic or anaærobic the experiments for want of success cannot decide, as the artificial lymph, in each case where the soil would admit, was taken both from the top and bottom of the culture.

On the whole, then, I am forced to conclude that my entire failure to cultivate the vaccine contagium out of the animal body arose, not from imperfect sterilisation, bad seed, improper modes of sowing, too low or too high temperature during incubation, wrong methods of incubation, too long or too short periods of incubation, but from some defect in the soil; in short, from the want of some peculiar zymotic pabulum or constituent absolutely essential for its reproduction. What this pabulum is I have not the least idea. I only know, with others, that vaccine contagium in contact with it in the animal body is multiplied, and it decomposed.

No one who reads this paper can be more sensible than myself of its numerous defects, experimental and deductive. As regards the former, several of the experiments may seem crude and trivial, and perhaps are so, yet they have been deemed at least worth recording, and as regards the latter, some repetition was unavoidable, and I fear some important points are unnoticed, and possibly some misinterpreted. I do not know whether, in the course of this inquiry, any collateral discovery valuable to sanitary science has been made,

## SYNOPSIS OF DETAILS AND

No. of Experiment.	Composition of Soil.	Sterilisation.	Quantity of Soil Fertilised.	Seed.
1	Hen's egg.	Kept at 98° for 30 min.	All.	Fluid lymph.
2	White of egg and water.	Unheated.	¶ix.	Do.
3	Hen's egg varnished.	Kept at 130° for 2 days.	All.	Do.
4	White of egg, water, pot. carb.	Boiled: coagulated	None.	Do.
5	Do., do., liq. pot.	Do.	Do.	Do.
6	Do., do., sod. chlor.	Do.	Do.	Do.
7	Do., do., sod. carb.	Do.	Do.	Do.
8	Do., do., ammon. carb.	Do.	Do.	Do.
9	Do., do., sod. phos.	Do.	Do.	Do.
10	Do., do., pot. carb.	Kept at 98° for 30 min.	¶xxx.	Do.
11	Do., do., liq. pot.	Do.	Do.	Do.
12	Do., do., ammon. carb.	Do.	Do.	Do.
13	Do., do., sod. carb.	Do.	Do.	Do.
14	Do., do., sod. chlor.	Do.	Do.	Do.
15	Do., do., sod. phos.	Do.	Do.	Do.
16	Do., do., benzoic acid.	Do.	Do.	Do.
17	Do., do., salicylic acid.	Do.	Do.	Do.
18	Do., gelatine.	Do.	Do.	Do.
19	Gelatine.	Boiled.	Do.	Do.
20	Gelatine, sod. phos.	Do.	Do.	Do.
21	Do.	Do.	Do.	Do.
22	Do.	Do.	Do.	Do.
23	Do.	Do.	Do.	Do.
24	White of egg, water, aq. calcia.	Unheated.	¶xv.	Do.
25	Do., glycerine, pot. bicarb.	Do.	¶xx.	Do.
26	Do., do., water, pot. bicarb.	Do.	¶ix.	Do.
27	Do., do., decoct. barley, do.	Do.	¶xxx.	Do.
28	Do., do., water, do.	Do.	¶xxv.	Do.
29	Do., do., do.	Do.	¶xvi.	Do.
30	Do., do., do.	Do.	¶xxviii.	Do.
31	Do., do., do.	Do.	¶li.	Do.
32	Do., do., do.	Do.	1 ccm.	Vaccine crust.
33	Do., do., do.	Do.	2 ccm.	Do.
34	Do., do., do., sod. phos.	Do.	1 ccm.	Do.
35	Do., do., do., pot. carb.	Do.	Do.	Fluid lymph.
36	Do., do., do., do.	Do.	Do.	Vaccine crust.
37	Do., do., do., do.	Do.	½ ccm.	Do.
38	Do., do., do., sod. carb.	Do.	¶lxii.	Do.
39	Do., do., do., pot. carb.	Do.	½ ccm.	Fluid lymph.
40	Do., do., do., do.	Do.	Do.	Do. from 2nd generation of Exp. 35.
Exp. 40 repeated.	—	—	—	—
41	Do., do., do., sod. carb.	Do.	Do.	Do.
42	Do., do., do., do.	Do.	½ ccm.	Do.
43	Do., do.	Do.	2 ccm.	Do.

## RESULTS OF EXPERIMENTS.

Methods of Sowing the Seed.	Temperature during Incubation.	Periods of Incubation.	Microscopical Appearances when taken from Incubator.	Time from end of Incubation until Vaccination.	Vaccination.
Injected.	95°-100°.	7 days.	Teeming with bacteria	Not used.	—
Mixed with soil.	98°.	7 do.	Few micrococci.	7 days.	Nil.
Injected.	94°-100°.	Do.	Do.	9 do.	Do.
Do.	Do.	7 do.	Do.	9 do.	Do.
Do.	Do.	7 do.	Do.	9 do.	Do.
Do.	Do.	7 do.	Do.	9 do.	Do.
Do.	Do.	7 do.	Do.	9 do.	Do.
Placed on soil.	80°.	7 do.	A few ameba and micrococci.	Not used.	Do.
Do.	80°.	7 do.	Similar.	Do.	Do.
Do.	80°.	7 do.	Do.	Do.	Do.
Do.	80°.	7 do.	Do.	Do.	Do.
Do.	80°.	7 do.	Nil.	58 days.	Small vesicle; in 105 days another vacc. nil.
Do.	80°.	7 do.	Few micrococci.	26 do.	Small vesicle; in 78 days another vacc. nil.
Do.	80°.	7 do.	Abundant dark spherical cocci.	51 do.	Nil.
Do.	80°.	8 do.	Groups of cocci and dark particles.	85 do.	Do.
Do.	80°.	6 do.	Micrococci very abundant.	56 do.	Do.
Do.	98°.	7 do.	Teeming with bacteria	Not used.	Do.
Do.	98°.	7 do.	Many micrococci.	60 days.	Do.
Do.	98°.	7 do.	Do.	50 do.	Small vesicle.
Do.	70°.	7 do.	Very many micrococci.	11 do.	Another vacc. in 66 days nil
Do.	80°.	7 do.	Very few do.	7 do.	Nil.
Do.	75°.	9 do.	Not examined.	18 do.	Do.
Do.	70°.	7 do.	Do.	23 do.	Do.
Do., culture inclosed in CO <sub>2</sub> .					
Placed in soil.	70°.	7 do.	Few micrococci.	7 do.	Do.
Do.	70°.	7 do.	Several do.	11 do.	Do.
Placed on disc of paper.	70°.	7 do.	Not examined.	7 do.	Do.
Placed on disc of pumice stone.	70°.	9 do.	Do.	7 do.	Do.
Placed on disc of cork.	70°.	8 do.	Do.	8 do.	Do.
Placed on disc of pumice stone.	70°.	6 do.	Many micrococci.	6 do.	Do.
Placed on soil.	70°.	5 do.	Do. and pus cells.	5 do.	Do.
Do.	70°.	4 do.	Very many micrococci.	5 do.	Do.
Do.	70°.	6 do.	Not examined.	6 do.	Do.
Placed on ball of sheep's wool.	70°.	5 do.	Many micrococci.	5, 18, 18, and 24 days.	Four small vesicles.
Placed in woolen cloth.	70°.	7 do.	Very few do.	7 days.	Nil.
Do.	70°.	5 do.	Very many do.	5 do.	Do.
Do.	70°.	6 do.	Not examined.	6 do.	Do.
Placed on ball of sheep's wool.	70°.	5 do.	Abundant micrococci.	18 do.	Do.
Do.	70°.	5 do.	Very few do.	5 do.	Do.
—	—	8 do.	Abundant do.	15 do.	Do.
Do.	80°.	6 do.	Few do.	6 do.	Do.
Do.	80°.	6 do.	Myriads of do.	6 do.	Do.
Soaked in sponge and placed in soil.	80°.	8 do.	Do.	8 do.	Do.

No. of Experiment.	Composition of Soil.	Sterilisation.	Quantity of Soil Fertilised.	Seed.
44	White of egg, glycerine, sod. carb.	Unheated.	1 ccm.	Fluid lymph.
45	Do., do., do.	Do.	1/11.	Do.
46	Do., do., water, sod. carb.	Do.	1/27.	Do.
47	Fresh blood serum, glycerine.	Do.	1/2 ccm.	Do.
48	Do., do.	Do.	1 ccm.	Vaccine crust.
49	Do., do., pot. carb.	Do.	1/10.	Fluid lymph.
50	Do., do., sod. carb.	Discontinuously heated at 140°-150°.	1/4.	Do.
Exp. 50 repeated.	—	—	—	—
51	Do., do., do.	Do.	1/11.	Dry calf lymph.
52	Do., do., do.	Do.	1/2 ccm.	Do.
53	Do., do., do.	Do.	1/2 ccm.	Moistened calf lymph.
54	Do., do., do.	Do.	1/6.	Fluid lymph.
55: Exp. 50 repeated.	—	—	—	No seed added.
56	Do., do., do.	Do.	1/7.	Moistened calf lymph.
57	White of egg, water, glycerine, sod. carb.	Do. at 140°.	2 ccm.	Fluid lymph.
58	Do., do., pot. carb.	Do.	Do.	Do.
59	Do., do., do., do.	Do.	Do.	Epidermis of vaccine vesicle.
60	Do., do., do., do.	Do.	1/2 ccm.	Fluid lymph.
61	Do., do., do., do.	Do.	2 ccm.	Epidermis of vaccine vesicle.
62	Fresh blood serum, glycerine, pot. carb.	Do.	1 ccm.	Fluid lymph.
63	Do., do., do.	Do.	1 ccm. and 1 ccm. water.	Epidermis of vaccine vesicle.
64	Do., do., do.	Do.	1/2 ccm. and 1/2 ccm. water.	Fluid lymph.
65	White of egg, glycerine, water, pot. carb.	Discontinuous heating at 140°.	1/2 ccm. and 1/2 ccm. water.	Fluid lymph.
66	Do., do., do., do.	Do.	1 ccm. and 1 ccm. water.	Do.
67	Do., do., do., do.	Do.	1/4.	Do.
68	Do., do., do., do.	Do.	1/1. and 1/1. water.	Do.
69	Do., do., do., sod. bicarb.	Do.	Stock mixture.	—
70	Do., water, sod. bicarb.	Do.	Do.	—
71	Stock mixture, Exp. 69.	Do.	1/1.	Do. from 2nd generation of Exp. 69.
72	Do., do. 70.	Do.	Do.	Do.
73	Do., do. 69.	Do.	1/1.	Do.
74	Fish extract (whiting), glycerine, sod. carb.	Boiled.	Stock mixture.	—
75	Do., do., do., do.	Do.	1/6.	Fluid lymph.
76A	Do., (cod), sod. bicarb.	Do.	Stock mixture.	—
76B	Do., glycerine, sod. bicarb.	Do.	Do.	—
77	Stock mixture, Exp. 76B.	Do.	1/1.	Do.
78	Do., do. 76A.	Do.	1/1.	Do.

Methods of Sowing the Seed.	Temper-ature during Incuba-tion.	Periods of Incuba-tion.	Microscopical Appearances when taken from Incubator.	Time from end of Incubation until Vaccination.	Vaccination.
Placed on sponge.	80°.	7 days.	Few micrococci.	7 days.	Nil.
Placed on sur-geon's lint.	80°.	7 do.	Do. do.	6 do.	Do.
Soaked in sponge.	Heat of own body.	5 do.	Very few micrococci.	6 do.	Do.
Placed on ball of sheep's wool.	80°.	7 do.	Do. do.	16 do.	Do.
Placed in wool-en cloth.	80°.	7 do.	Myriads of do., with a few pus cells.	16 do.	Do.
Placed on sponge.	80°.	7 do.	Many minute micro-cocci.	16 do.	Do.
Do.	Heat of own body.	6 do.	Myriads of micrococci.	19 do.	Do.
—	—	5 do.	Do. do.	11 do.	Do.
Placed on soil.	80°.	5 do.	Few do.	15 do.	Do.
Do.	80°.	5 do.	Do. do.	16 do.	Do.
Placed on sponge.	80°.	5 do.	Abundant do.	29 do.	Do.
Mixed with soil and kept in tubes.	80°.	10 do.	Very few do.	29 do.	Do.
—	—	5 do.	Abundant do.	—	—
Mixed with soil & soaked in sponge.	Heat of own body.	6 do.	Do. do.	24 do.	Do.
Placed on sponge.	80°.	5 do.	Not examined.	5 do.	Do.
Placed on disc of cork.	80°.	11 do.	No micrococci.	15 do.	Do.
Placed on soil.	80°.	16 do.	Few do.	8 do.	Do.
Placed on sponge.	80°.	6 do.	No do.	5 do.	Do.
Placed on soil.	80°.	13 do.	Many do.	15 do.	Small imperfect vesicle. In 26 days, another do. In 82 days, nil.
Do.	80°.	7 do.	Do. do.	8 do.	Nil.
Do.	80°.	3 do.	Few do.	13 do.	Do.
Placed on sponge.	90°.	6 do.	Abundant micrococci.	7 do. 14 do. 75 do. 84 do.	Small imperfect vesicle. Do. good do. Do. do. do. Nil.
Placed on disc of vegetable parch-ment.	80°.	11 days.	Few micrococci.	10 days.	Small imperfect vesicle. In 15 days another vaccc. nil.
Do.	80°.	6 do.	Do. do.	5 do.	Nil.
Placed on sponge.	Heat of own body.	do.	Abundant micrococci.	6 do.	Do.
Do.	Do.	7 do.	Do. do.	10 do. 41 do.	A perfect small vesicle. Nil.
—	—	—	—	—	—
Placed on sponge.	Do.	7 do.	Very few micrococci.	7 do.	Nil.
Do.	Do.	7 do. 6 do.	Myriads of do. Few granular bodies, and diplococci.	7 do. 6 do.	Do. Do.
Lymph and soil incorporated at 90°.	—	—	—	—	—
Placed on sponge.	Do.	8 do.	Myriads of micrococci.	4 do.	Do.
—	—	—	—	—	—
Placed on disc of vegetable parch-ment.	80°.	6 do.	Few micrococci, with phosphatic crystals.	8 do.	Nil.
Seed & soil soaked by sponge.	Heat of own body.	7 do.	Teeming with bacteria.	Not used.	—

No. of Experiment.	Composition of Soil.	Sterilisation.	Quantity of Soil Fertilised.	Seed.
79	Stock mixture, Exp. 69.	Boiled.	2 ccm.	Fluid lymph.
80	Do., do. 76a.	Do.	1 <i>1</i> / <sub>2</sub> ill.	Do.
81	Do., do. 76a., $\frac{1}{2}$ ccm.	Do.	1 ccm.	Do.
	Do., ext. malt., $\frac{1}{2}$ ccm.			
	Do., water, $\frac{1}{2}$ ccm.			
82	Dried blood serum, common salt, water, sod. bicarb.	Gently heated.	1 <i>1</i> / <sub>2</sub> ccm.	Do.
83	Ext. malt., water, stock mixture, Exp. 69.	Unheated.	1 ccm.	Do.
	Stock mixture, Exp. 76a.			
84	Dried blood serum, water, glycerine, sod. bicarb.	Do.	1 <i>1</i> / <sub>2</sub> ill.	Do.
85	Dried blood serum, glycerine, water.	Do.	1 <i>1</i> / <sub>2</sub> ccm.	Do.
86	Do., do., do.	Do.	1 <i>1</i> / <sub>2</sub> ill.	Do.
87	Do., do., do.	Heated to 130° for 1 hour.	1 ccm.	Do.
88	Do., do., do.	Do.	1 <i>1</i> / <sub>2</sub> ill.	Do.
89	Veal broth, glycerine, pot. carb.	Boiled.	1 <i>1</i> / <sub>2</sub> ill.	Do.
90	Mixtures, Exps. 87 and 89.	Do.	Do.	Do.
91	Koch's meat peptone, water, pot. carb.	Do.	1 ccm.	Do.
92	Dried blood serum, water, mucilage, pot. carb.	Discontinuously heated at 140°.	2 ccm.	Do.
93	Dried blood serum, water, glycerine, pot. carb.	Do.	Do.	Do.
94	Dried blood serum, water, pot. carb.	Do.	1 <i>1</i> / <sub>2</sub> ill.	Do.
95	Do., glycerine, water, pot. carb.	Do.	Do.	Do.
96	Dried blood serum, water, pot. carb.	Do.	Do.	Do. from 2nd generation of Exp. 94
97	Exp. 96 repeated with less pot. carbonic soil.	Do.	Do.	
98	Solution of dried blood serum.	Do.	Do.	Fluid lymph.
99	Do. of ox hough, sod. carb.	Boiled.	Do.	Do.
100	Do. glycerine, sod. carb.	Do.	1 <i>1</i> / <sub>2</sub> xvii.	Do.
101	Fresh ox blood serum, glycerine.	Unheated.	1 <i>1</i> / <sub>2</sub> ill.	Do.
102	Do. do.	Do.	1 <i>1</i> / <sub>2</sub> ill.	Do.
103	Beef broth, sod. carb.	Boiled.	2 ccm.	Do.
104	Do. cold glycerine, sod. carb.	Do.	Do.	Do.
105	Repetition of Exp. 103.	Do.	Do.	—
106	Do. 104.	Do.	Do.	—
107	Beef broth, sod. carb.	Do.	1 <i>1</i> / <sub>2</sub> ccm.	Do.
108	Koch's meat peptone, beef broth, sod. carb.	Do.	1 <i>1</i> / <sub>2</sub> xc.	Do.
109	Koch's meat peptone, beef broth, gelatine, sod. carb.	Do.	1 <i>1</i> / <sub>2</sub> ill.	Do.
110	Beef broth, gelatine, sod. carb.	Do.	1 <i>1</i> / <sub>2</sub> ill.	Do.
111	Do., sod. carb.	Do.	Do.	Do.
112	White of egg, water.	Unheated.	Do.	Do.
113	Gelatine.	Boiled.	4 ccm.	Do.
114	Beef broth, sod. carb.	Do.	2 ccm.	Do.
115	Do. veal broth, sod. carb.	Do.	Do.	Do.
116	Pigeon's egg.	Warm.	All.	Do.
117	Beef broth, Koch's meat peptone, Agar-Agar, water, sod. carb.	Boiled.	1 <i>1</i> / <sub>2</sub> ccm.	Do.
118	Soil of Exp. 117, and water.	Do.	1 <i>1</i> / <sub>2</sub> ccm. 117 soil, 1 ccm. water.	Do.

Methods of Sowing the Seed.	Temper-ature During Incuba-tion.	Periods of Incuba-tion.	Microscopical Appear-ances when taken from Incubator.	Time from End of Incuba-tion until Vaccination.	Vaccination.
Placed on disc of vegetable parchment.	70°-75°.	—	Very few micrococci.	6 days.	Nil.
Placed on disc of flannel.	80°.	4 days.	Abundant do.	17 do.	Do.
Do.	Do.	4 do.	Do. do.	51 do.	Do.
Placed on vegetable parchment.	Do.	4 do.	Do. do.	54 do.	Do.
Placed on ball of sheep's wool.	Do.	5 do.	Few do.	68 do.	Very small vesicle.
Placed on sponge.	Heat of own body.	5 do.	Abundant do.	2 do.	Nil.
Do.	75°-80°.	5 do.	Do. do.	3 do.	Do.
Do.	Heat of own body.	5 do.	Do. do.	12 do.	Do.
Placed on vegetable parchment.	80°.	6 do.	Do. do.	21 do.	Do.
Placed on sponge.	Heat of own body.	5 do.	Very do. do.	21 do.	Do.
Do.	98°.	5 do.	Do. do. do.	5 do.	In 7 days, a calf, nil.
Do.	Do.	5 do.	Do. do. do.	5 do.	Nil.
Do.	80°.	5 do.	Do. do. do.	5 do.	Do.
Placed on vegetable parchment.	Do.	5 do.	No micrococci.	5 do.	Do.
Placed with soil in wide capillary tube and sealed.	98°.	5 do.	Myriads of micrococci.	4 do.	An excellent vesicle; small. In 12 days another vacc. nil
Do.	Do.	8 do.	Very few do.	8 do.	Nil.
Do.	Do.	7 do.	No micrococci.	7 do.	Do.
Do.	Do.	7 do.	Not examined.	3 do.	Do.
Fixed with soil in tube and sealed.	90°.	4 do.	Few micrococci.	4 do.	Small vesicle. In 29 days another vacc. nil
Do.	Do.	8 do.	Very few micrococci.	20 do.	Nil.
Placed on soil.	80°.	6 do.	No micrococci.	5 do.	Do.
Fixed with soil in tube and sealed.	98°.	5 do.	Very few micrococci.	8 do.	Do.
Soil and seed baked in sponge.	98°-100°.	5 do.	Myriads of do.	5 do.	Do.
Placed on soil.	98°.	3 do.	Very few do.	7 do.	Small imperfect vesicle.
Do.	Do.	5 do.	Numerous do.	4 do.	Nil.
—	—	4 do.	Many do.	28 do.	Do.
—	—	6 do.	Few do.	21 do.	Do.
Do.	98°.	7 do.	Do. do.	71 do.	Do.
Do.	Do.	8 do.	Thick pellicle of micrococci.	6 do.	Do.
Fixed with soil in glass cell.	Do.	4 do.	Few micrococci.	57 do.	Do.
Do.	Do.	4 do.	Many do.	79 do.	Do.
Do.	Do.	4 do.	Do. do.	79 do.	Do.
Placed on soil.	Do.	6 do.	Myriads of micrococci.	86 do.	Imperfect vesicle.
Placed on soil.	85°.	6 do.	Do. do.	60 do.	Nil.
Do.	98°.	5 do.	Spongy pellicle of micrococci.	18 do.	Do.
Do.	Do.	3 do.	Many micrococci.	18 do.	Do.
Injected into egg.	Heat of pigeon.	7 do.	Do. do.	7 do.	Do.
Placed on soil.	98°.	6 do.	Very few micrococci.	7 do.	Do.
Do.	Do.	7 do.	Do. do.	7 do.	Do.

excepting that I have found the vaccine contagium insuperably difficult to cultivate apart from the animal body, and that if this difficulty be held as applicable to those other contagia which, like the vaccine contagium, usually render the system insusceptible to their virulence by one attack, it shows that, although such contagia may, like the vaccine contagium, exist under apparently very adverse and also very favourable conditions for their reproduction without the animal body, yet it is only within the animal body that they propagate by finding there alone the pabula vitally essential for their reproduction.

Again, although I have not solved the main problem, possibly my efforts will assist in some degree toward its solution by a process of exclusion, as were I to continue the research, for which the problem affords boundless scope, only a very few of my experiments would be repeated.

This inquiry has extended over a period of fully three years, and I need scarcely add, has been very frequently interrupted by the usual exigencies of professional duties, and of course has not been free from the many inevitable mishaps and disappointments of all experimental research. Although I have failed, the fascination of the inquiry has not. Had longer time been allowed, the experiments would very probably have been continued, as I am strongly of opinion that the problem admits of solution. But I fondly hope that some other candidate has succeeded in twining such a splendid laurel round the brows of the goddess of science; its far-reaching results would almost, if not altogether, surpass those of Jenner's immortal discovery.

As regards the literature of the subject, I have examined several extensive bibliographical lists of works on micro-organisms, and many of the works themselves, without finding any title or account of similar experiments, except the paper by Quist already noticed. Although Quist seems to have been successful in cultivating the vaccine contagium in soils similar to some of mine, yet he nearly always used the epidermis of the vaccine vesicle as seed. Now, as he himself says, this epidermis is nearly a solid mass of seed, and as I repeated some of his experiments, using fluid lymph as seed, I am hence inclined to think that he mistook the diffusion of the solid mass of vaccine cocci in his cultures for their reproduction. Moreover, excepting in one apparently successful experiment, Quist never carried his cultivations beyond the first generation.

## A CASE OF INJURY TO THE HEAD, RESULTING IN PARALYSIS AND EPILEPTIFORM CONVULSIONS.

BY JOSEPH COATS, M.D.

A. N., aged 30, was admitted to Ward 1, in the Western Infirmary, on 27th August, 1886, with loss of power in the right arm and leg, with partial loss of memory and speech, all following upon an injury to the left side of the head 17 months before. At that time he was a strong, active man, working as a railway guard at Carlisle. He said that while going along the street, and somewhat under the influence of drink, he was set upon by three men and struck with a hatchet on the head. He immediately lost consciousness. He was admitted to the Cumberland Infirmary, Carlisle, under the care of Dr. Roderick Maclaren, who read an account of the case at the Clinical Society of London, on 12th March, 1886. Dr. Maclaren has kindly furnished the following account of the case while under his care:—

"On 25th March, 1885, A. N. was admitted to the Cumberland Infirmary. He had a vertical wound  $1\frac{1}{2}$  inch long over the left side of the frontal bone; it was  $\frac{1}{4}$  of an inch in front of and parallel to the left temporal ridge; its lower end was  $1\frac{1}{2}$  inch above the supra-orbital ridge; the skull was fractured and depressed. Three days before admission he had been struck on the head with a pair of tongs. His condition immediately after the injury is not known, but there is good evidence that he walked home, a distance of a mile, unaccompanied by any one. At a later hour he was able to put himself to bed, was sensible, and complained of pain in the head. During the two days following the injury he was occasionally delirious. I was from home on the day of his admission, and my colleague, Dr. Lediard, kindly saw him for me and raised such depressed fragments of bone as could be reached. On the following day, when I saw the man, he was very drowsy; when wakened he answered questions very slowly; some answers were incoherent, others of doubtful relevancy; there was no paralysis.

"On 27th March he was more drowsy and complained of pain in the head. Early on the morning of the 28th he had convulsive twitching of the face and conjugate deviation of the eyes to the right, lasting a few minutes. This day he was constantly asleep, but could be roused, though not sufficiently to speak. A herpetic eruption appeared on the back of both wrists.

"On the 29th the brain began to protrude through the wound. He was deeply comatose and had a second attack of convulsion of the face.

"On the 30th the protrusion had increased, loose pieces of bone being lifted up by the brain. He had three attacks of general convulsions, was deeply comatose, and passed his urine and motions involuntarily. The right pupil was dilated, the left normal.

"On 31st March it is noted that he had one attack of general convulsions before my hospital visit. His coma was slightly less profound to this extent, but whatever caused pain made him restless. I decided to explore his injury, and had him put under chloroform. I extended the scalp wound downwards to the end of the skull fracture close to the eye-brow, and removed all fragments within reach. I believe I got away every piece of detached bone, though some were embedded  $1\frac{1}{2}$  inch in the brain-substance. There were ten pieces in all. The aperture left in the skull was 3 inches long and varied in breadth from 1 inch above to  $\frac{1}{2}$  inch below. The hernia cerebri was also removed, and some diffluent brain-substance washed away by gentle syringing. A glass drainage tube was inserted, a piece of perforated zinc applied over the wound, and a gauze dressing used under spray. It was noticed when he was struggling under chloroform before the operation that the right side was paralysed. From this time improvement began; his convulsions ceased and his general condition became slowly better. Two days afterwards, as the wound smelt badly, the gauze dressing was discontinued and iodoform substituted.

"On 4th April it was first noticed that the mouth was drawn to the left and the tongue protruded to the right and that there was want of expression on the right side of his face. He remained absolutely paralysed in the right arm and leg. By 14th April he could understand when spoken to; he did what he was asked. Involuntary evacuations had become occasional only. The brain was again protruding; it had pushed out the drainage tube and the hernia had increased gradually to about the size of the thumb. I again removed it and slipped a silver plate inside the skull so as to close the opening, and having drilled the skull on each side, carried a wire across in front of the plate to prevent it from being pushed out. During the subsequent fortnight he continued to improve; the facial paralysis became less marked; he soon looked bright and intelligent, and would answer questions by 'Yes' or 'No,' though still unable to use other words. The

leg began to recover some power of movement. The hernia, however, reappeared and continued to increase, and on 3rd May I again removed a mass about twice the size of the forefinger. As the protrusion occurred owing to the plate slipping to one side within the skull, I wired it in such a way that it was immovable. Next, the edges of the scalp wound were pared, a liberating incision made  $1\frac{1}{2}$  inch distant on each side, and the edges sutured together. During the subsequent month he improved steadily, and at the end of it the facial paralysis was little marked: the tongue, though protruded to the right, could be carried quite over to the left; there was considerable power of movement in the leg, but the arm was absolutely powerless. He could ask for what he wanted, but could not put a sentence together. A great deal of the wound had healed, and the lateral incisions were cicatrising. The plate caused no irritation; there was a very slight discharge of pus from the wounds. During the latter part of the time he got up every day.

“On 23rd June he had a slight attack of general convulsions lasting a few minutes.

“On 4th July I removed the plate; the surface underneath was smooth, vascular, and looking like congested mucous membrane. The edges of the wound were pared and brought together. On the following day he had another attack of general convulsions (except the right arm).

“On 4th August I have the following report of his condition:— He walks about easily, but slightly drags the right leg. He has no power of movement in the right arm, but slight rigidity which has existed for three weeks; touch and appreciation of heat and cold are normal in this limb. Idea of position is good. There is a slight want of expression on the right side of the face. The tongue is protruded a little to the right. Intelligence is good, speech also good, except that he is given to repeating the same words in answer to different questions, and is sometimes at a loss for a word. His wounds are almost healed. There is ankle-clonus and exaggerated patellar reflex in the right leg. The cremasteric reflex is somewhat diminished on the right side. Above this the body reflexes are absent on the same side. The movements of the eyes are normal.

“On 5th September he left the Infirmary and went to Skye, of which he is a native. He was a thin-boned wiry Celt and a magnificent surgical patient, with great tenacity of life and with tissues of exceptional recovery power.

“I desire to point out that so long as the plate was in position.

tion, though it was not an exact fit, no protrusion occurred, it caused singularly little irritation, its presence had no injurious effect, direct or indirect, on the brain. It is noteworthy that with A. N. the original injury did not cause paralysis, which only occurred when the brain inflamed and about the same time as it began to protrude.

“Note.—20th July, 1886.—Patient still in Skye. I have received from his friends the following account of his condition:—‘Fits becoming less frequent, average now once a month, but has not had one for last five weeks. No power regained in right arm, but leg quite strong and under control. General health good; patient averse to exertion and does nothing. Aura always present before fit.’”

After a stay of six months in the Carlisle Infirmary he went to the Island of Skye, of which he is a native. During his residence there the leg has slightly improved, so that he could go about a good deal, although he had little inclination to work. The fits which had begun at Carlisle continued to occur at intervals of from one to five weeks.

The injury to the head has left a very striking disfigurement. There are two large cicatrices nearly parallel to each other in the left frontal region, and both of them parallel to the middle line. The more important one consists of a deep sulcus, whose lower extremity is over the eyebrow, about half an inch from the outer margin of the latter, and corresponding with the outer border of the eyeball. From this point it ascends for about three inches, ending about the coronal suture. The sulcus is formed of cicatrical tissue, beneath which there are bony walls evidently corresponding with the whole thickness of the skull. The sulcus gets narrower on passing deeply, and its floor consists of a narrow band of cicatrical tissue, which, on careful observation, is seen to pulsate slightly. The other cicatrix appears to involve only the scalp. Its lower extremity corresponds with the inner margin of the eyebrow, and it passes over the brow for a distance of one and a half inch.

Shortly after admission, the following note of his condition was made by me:—The patient answers questions slowly, and occasionally, after attempting an answer, says that he cannot express himself. There is, however, no mistaking of words or definite aphasia. He says he can read, and is often seen using papers or books, but on testing him he says that he understands what is printed, but cannot “sound it out.”

There is no definite paralysis of the face, and he can whistle and blow out his cheeks. The tongue is protruded in the middle line. The right arm is markedly paralysed, having all

the appearances of ordinary hemiplegia with rigidity. He can lift the arm off the bed, but cannot carry it above his head, and he can do nothing with the fingers, which are retained in the flexed position so rigidly that it requires great force to straighten them. The thumb is carried inwards across the palm. When the dynamometer is placed in his hand and he is asked to squeeze, it registers 17.20 kilograms, but this is probably a mere result of the rigid contraction. With the left hand he makes over 50 kilograms. The tendon reflex is greatly exaggerated in all the muscles of the arm, including the trapezius, deltoid, and pectoralis, a slight tapping of the tendons leading to very marked jerking in these muscles. This was not elicited in the latissimus dorsi. The right arm is considerably thinner than the left, the measurements being (1)  $2\frac{1}{2}$  inches below tip of acromion, right,  $9\frac{1}{2}$  inches; left,  $10\frac{1}{4}$  inches; (2) middle of biceps, right,  $10\frac{1}{4}$  inches; left,  $11\frac{3}{4}$  inches. In regard to the leg, it is observed that in walking he uses it with little apparent difficulty, but he is conscious of considerable weakness in it. The knee reflex is much exaggerated, and clonus is readily elicited, especially by extending the foot and tapping on the tightened tendo Achilles. There is no difference in the measurement of the two legs.

Inquiries made as to the fits referred to above elicit the following facts:—These facts were attained with some difficulty, as the patient, although obviously willing, and not definitely unintelligent, has considerable difficulty in expressing himself. It seems perfectly certain, at any rate, that the fits always begin with a jerking in the right cheek, which he more particularly localises in the middle of the cheek. The jerking does not, according to his sensations, cause the teeth to close. This is followed by a jerking of the right arm (the paralysed one), and apparently the whole arm takes part in it. Then the right leg follows, jerking up and down, and rising a considerable distance above the bed. During all this march of the spasm he is perfectly conscious. The only other phenomenon, before losing consciousness, of which he is able to speak, is what he calls a feeling of dryness apparently in the skin of the body, localised chiefly in the upper part of the trunk in front. He has been told that, while unconscious, the left arm also moves, but he has never been himself sensible of any movement on the left side of the body. He remains unconscious, according to his wife's statement to him, for about ten minutes, and, after recovering, he gets up and walks about. He is not conscious of any ill after effects from the fit; there is no increase of paralysis,

but he seems to say that the speech is worse for a short time. There is no drowsiness after the fit. It seems that occasionally a jerking occurs in the right arm, beginning apparently above the elbow, and extending to the forearm, and limited to these parts. He has never had any such isolated spasm anywhere else, and when once the jerking begins in the face it always goes regularly on to a complete fit.

On 14th September patient had one of his fits in the ward, and, so far as can be learned, it had precisely the character described above. He was in the kitchen when the jerking in the cheek began, and he was at once conveyed to bed. Additional information is obtained as to the state of matters when unconsciousness supervened, as Dr. Mair saw him by this time. He found him violently convulsed, the right arm and leg especially, although the left were also moved. The right side of the face was not convulsed at this time, but the left side violently so. The general convulsions lasted a few minutes, during which he was unconscious. Unconsciousness lasted, after the cessation of the convulsions, for a few minutes more. He gradually recovered, and showed no drowsiness afterwards. During the convulsion he frothed considerably at the mouth, but he did not bite his tongue.

On 21st September he had another fit similar to that just described. The only new fact discovered is that cold shivering occurred before the fit, and he says that this is a constant symptom. He states that this fit was exactly like the others.

On 28th September he had another fit between seven and eight p.m. He was in bed at the time, and he felt the same cold shivering and the jerking in the cheek in time to send a patient to tell the nurse that he was going to have a fit. On the nurse's arrival she found him convulsed, and screaming out loudly. The fit did not last longer than three or four minutes, and at the end of this time patient looked around in a dazed manner for a second or two, not recognising those around him. Then he spoke in quite a rational manner. The nurse says that during the fit he was lying on his left side, and that his head was twisted towards the right. The condition of the eyeballs was not particularly noted. He was at first purple in the face, then had stertorous breathing, with foaming at the mouth, but did not bite his tongue or pass any of his evacuations in bed. He states on enquiry that he used at home to pass his urine during the fits.

Since about the 1st of October the patient has been put upon bromide of potassium, with the result that the fits have not

recurred, and that even the minor twitchings have entirely disappeared. There is some improvement also in the arm. He can now raise it up to his head. Otherwise the phenomena remain much as they were. He has been particularly tested as to his power of reading, and he persists in the statement that he can read easily, but has great difficulty in reading aloud, the words being sometimes even mistaken. He volunteered the statement that, although he understood Gaelic as well as ever, he had greater difficulty in speaking it than in speaking English; but on putting this to the test by the Sister of the ward, who speaks Gaelic, and by a patient, there seems no good ground for it, his powers of speaking being similar in both languages.

*Remarks.*—In this case it is clear that serious injury has been done to the cortical centres for the movements of the arm, for speech, and, to a less extent, for the movements of the leg. There is also a source of irritation affecting the same region. We may infer that, in connection with the healing of the wound in the brain and *dura mater*, there has been considerable thickening and dragging of the parts; and it may be a question how far, by surgical interference, such a condition might be relieved.

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## CURRENT TOPICS.

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UNIVERSITIES AND COLLEGES.—A good deal of misapprehension is apt to arise from the different meanings attached to the words "University," and "College." The following statement may help to make the matter clearer:—

A "University" is a body corporate, with a Chancellor, a Senate, and various officials; also an Examining Board. It holds directly from the Crown the right to confer degrees on persons whom it deems worthy to receive them. Such is the University of London.

In a second sense, a University is a body corporate of the same kind with a staff of teaching professors who conduct in whole or in part the education of the students who are to become candidates for degrees. It has buildings containing libraries, class rooms, &c.

In a third sense, the term "University" is sometimes popularly applied to the buildings of the University.

A College is a corporation of Physicians or Surgeons with a

President, Council, and Fellows. It holds by charter of incorporation the right to grant licenses to practise medicine or surgery. Sometimes the building in which the Corporation holds its meetings is called "The College." Such is the College of Surgeons of Edinburgh.

Again, a College is an association of teachers who have combined, or have been combined for some corporate purpose, as for conducting examinations on behalf of some other corporation not provided with a suitable examining staff of its own. Such is the College of Preceptors of England.

In another sense, a College of a University is a society with a head or master, with fellows, lecturers, and tutors, and with students who receive instruction under the superintendence of the society. Such a college has buildings with suitable accommodation for teaching purposes, and in most instances for residence. Such are the colleges of Oxford and Cambridge. The term College is sometimes applied to the buildings occupied by the society of teachers and students as above; or in the case of non-residential colleges, containing the class rooms, libraries, museums, as the College of science and medicine, Newcastle.

Most universities and colleges have specialties on which a few remarks may be made.

*London.*—The University of London was founded by a Royal Charter of Queen Victoria. It has a Chancellor, a Senate, a Convocation, and Board of Examiners. It has no staff of teaching professors nor students. All candidates for its degrees in medicine must pass a matriculation examination at the University. Thereafter they may pursue their studies wherever they choose. There is no rigid curriculum for degrees in medicine, the candidates being allowed some latitude in the choice of subjects for which they produce certificates of attendance. The examination in every branch of medicine is intended to be so strict as to insure that the candidate has devoted sufficient study to each, without being required to produce evidence of class attendance on all. It is simply a degree-granting, not an educational, University.

*Cambridge.*—The University of Cambridge has a Chancellor and a Senate, and various officers and courts for the management of University affairs. It has Boards of Examiners for its several degrees. The various Colleges are the residences of the Fellows and the undergraduates or students, where, under the supervision of the tutors, they pursue their studies—both privately and by attending lectures given by the teaching Fellows. The education for medical degrees is very similar to that.

in the Scottish Universities. The University Medical School consists of the Professors in the various branches of medical science, who give the courses of lectures, &c., required for degrees, in the class rooms of the building known as "the New Museum." Practical courses are also given by the Professors and their Demonstrators in the laboratories of that medical school. Besides the professorial teaching, in several Colleges, as Trinity, St. John's, King's, Caius, the teaching Fellows give systematic and practical courses which are recognised for graduation; but these are strictly under the supervision of the "Board of Studies," so as to secure that they are co-extensive with those in the University School. In most cases, however, the College courses are devoted to some special department of a subject—like those of the *privatim docentes* in Germany. The lecturers in the Colleges are not Professors of the University. On the contrary, if a College lecturer should be appointed a University Professor he usually gives up his private course in his College, and is succeeded by another teaching Fellow. No single College provides a complete curriculum of the lectures required for graduation. This can only be had in the University School. But provision is not made in Cambridge for the practical parts of medicine in their entirety. Most students go to London for their last two years. For medical degrees the candidates must have resided in Cambridge three out of the five years required. While there they must attend the courses of lectures prescribed—some of these with Professors of the University, the rest either with Professors or with college lecturers who have been recognised.

*Oxford*.—There are very few students of medicine. But a medical school is now being organised on the same plan as Cambridge.

*Durham*.—Founded by a Royal Charter of Queen Victoria. There are two Colleges in this University—one the old Castle of Durham, with two buildings adjoining, containing the library, hall, and residential apartments of the Professors and students in the Faculties of Arts, Theology, and Law; the other at Newcastle, containing the class-rooms and laboratories for the students of Medicine. These two are separate parts of one University.

*Aberdeen*.—There are two College buildings in this University—King's, in Old Aberdeen, containing the chapel, the library, and the class-rooms for students in the Faculties of Arts, Theology, and Law; Marischal College, in New Aberdeen, containing the laboratories and class-rooms for students

of the Medical School. These two separate parts constitute "the University of Aberdeen."

*St. Andrews.*—There are two College buildings in this University—St. Mary's, for the students in the Faculty of Theology, and the United College of St. Leonards and St. Salvador, for students in the Faculties of Arts and Science, and Medicine. These two separate Colleges form one University.

*Edinburgh.*—There are two College buildings in this University—one, the old University, now devoted to the Faculties of Arts, Theology, and Law; the other, the new Medical School Buildings, for the Faculty of Medicine.

In all the instances where a University has two Colleges, and a staff of teaching Professors in each, one is not, in whole or in part, a duplicate of the other, but each constitutes an integral part, with different Faculties, of one University.

*Glasgow.*—All the Faculties occupy one building, which is popularly known as "the University of Glasgow."

*Victoria University*, instituted by a Royal Charter of Her Majesty, in 1880, has a constitution differing from all the other Universities. It has a Chancellor, Court, Council, and Convocation. It has Boards of Examiners for its various degrees.

The students of the Chartered Colleges in Manchester and Liverpool, and such others as may be admitted, have access to its degrees. The professors in these Colleges are Professors of Victoria University. They, and such of the Lecturers as are appointed Lecturers of the University, are Examiners for Degrees, together with External Examiners, being appointed by the Court.

The Colleges of the University are:—Owens College, Manchester (incorporated in it by Charter), and University College, Liverpool. Colleges for higher education in any other town may petition for admission, provided they have permanently endowed Chairs and Lectureships in Arts, Science, and Medicine, and possess the means of keeping up libraries, museums, and practical laboratories, and independent charters as educational Colleges within the meaning of the Victoria University Charter.\* Each of these Colleges is founded on the principle of giving a complete education in the usual subjects of University training.

"The meeting of the University Court, and Council, and of the Convocation of Victoria University, shall be held in the city of Manchester. Unless and until the University shall

\* *Vide* Calendar of University College, Liverpool.

possess other buildings proper in this behalf, those meetings shall be held and all degrees granted and examinations for degrees held by the University shall be granted and held, in a building provided by the Owens College, with the approval of the University Court."—Charter.

But provision is made for the Court to allow of examinations to be held in any of the incorporated Colleges.

**SOUTHERN INFIRMARY.**—The following statement of historical facts as to the proposal at present before the public, to erect an Infirmary on the south side of the river, will doubtless be read with interest:—

The present agitation for the erection of a Southern Infirmary began some seven years ago, when the matter was discussed, and the project unanimously adopted by the members of the Southern Medical Society, the memorial circulated at that time containing the names of nearly all the medical men practising on the south side of the river. Shortly afterwards it was under discussion at the Medico-Chirurgical Society, where the scheme was warmly supported. After most of the prominent employers of labour had been visited and promises of aid had been received, a large and influential public meeting was held in 1881, presided over by Lord Provost Ure; at this meeting it was unanimously resolved that a Public Infirmary should be established and erected in a convenient locality on the south side of Glasgow. The Town Council looked so favourably on the proposal as to grant a most eligible site, extending to  $4\frac{1}{2}$  acres, in the Queen's Park, at a moderate rate of feu duty. Thereafter plans for the Infirmary were obtained, by means of a public competition, the plans selected being those of Messrs. Campbell Douglas & Sellars, architects. At this time a wealthy citizen died, leaving a large portion of the residue of his estate for the building of an Infirmary and Convalescent Home on the south side of the river. The future of the Southern Infirmary was thus regarded as assured, till a short time ago, when it was announced that there were no available funds for the purpose mentioned. In these circumstances the Executive Committee propose to proceed with the erection of a portion of the structure, consisting of only one pavilion. This will provide accommodation for 60 patients in 3 large wards, having space for 18 beds each, and 3 small wards for 2 beds each. Tenders for the various departments of the work have been obtained and provisionally accepted. To build this pavilion, and to buy up the feu-duty (which requires a capital of about £6,500), the Committee aim at raising £20,000; with-

out any general canvass, subscriptions to the extent of about £8,000 have already been secured. The Committee have also approached the Town Council suggesting that the Southern Infirmary scheme be adopted by the City, as at least one of the means whereby it shall commemorate the Jubilee year of Her Majesty, and asking the co-operation of the Council in presenting a request to Her Majesty to permit her name to be used in the title of the Infirmary. Should the request be granted the Southern Infirmary will in all probability be known as the "Queen's Infirmary," or "Victoria Infirmary," Glasgow.

Those who advocate the erection of the Southern Infirmary base their views on four sets of facts:—

1. The small proportion of Infirmary beds to population in this city. While Dublin has 1 bed for 157 of her population (a very high proportion), Edinburgh has 1 to 400, Glasgow 1 to 700.

2. The absence of any Infirmary on the south side of the river, a district which has a population of about a quarter of a million, mostly of the working class, and contains an immense number of large public works. The great distance which patients from the southern districts, suffering from disease or injury, have to travel to the existing Infirmaries, has also to be borne in mind.

3. The inability of the existing Institutions to overtake all the work expected of them. The Committee publish statistics, compiled from the reports of the two Infirmaries, showing that after filling all available beds, the daily average number of suitable applicants waiting for admission during the first six months of the year was 71 in 1885, and 83 in 1886. During the last six months of these years the averages were 25 and 21 respectively. In 1885 the largest number waiting for admission on any one day was 126. In 1886 the number rose to 144.

4. The financial position of the existing Infirmaries. Notwithstanding a widespread notion to the contrary, these Institutions not only pay their way, but are able from year to year to add substantial sums to their capital account. From this it is argued that there should be no difficulty in supporting a Southern Infirmary, when the necessity for such a charity is duly recognised.

**ANNUAL MEETING OF THE ROYAL INFIRMARY NURSES.**—The Twentieth Annual Meeting of the Nurses with the Managers and friends of this Institution was held on New-year's day

morning in the Dispensary Hall. Lord Provost King presided, and among the gentlemen who accompanied him to the platform were the Rev. Marcus Dods, D.D., Professor W. T. Gairdner, Mr. Hugh Brown (Chairman of the House Committee), Mr. William M'Ewen, and a large number of the managers and staff. The meeting was large, enthusiastic, and sympathetic, and the nurses must have been gratified at the good will and encouragement which was again on all hands so freely and heartily accorded them. On glancing over the intelligent and earnest countenances of the nurses as they sat together in the body of the Hall, we could not help being convinced that the nursing requirements of the Hospital were most amply and efficiently provided for, and that, as was more than once said by the different speakers, the work to which they had devoted themselves was one of which no woman, however high her position, need be ashamed.

The proceedings were opened by a choir of the nurses, under the baton of Dr. Glaister, singing the *Te Deum*, which was heartily joined in by the audience. In the course of his introductory remarks, the Lord Provost referred to the continued prosperity and undiminished usefulness of the Infirmary, and said that it was indeed pleasant to know that year by year the reputation of the nurses was well maintained, and that their efficiency was as high as ever. After referring briefly to the jubilee year of Her Majesty, His Lordship called upon Dr. Marcus Dods to deliver the annual address. In an able address full of earnest, sound advice, and abounding in kindly humour, Dr. Dods encouraged the nurses in their work, and impressed upon them the necessity of at all times remembering the great responsibilities which were laid upon them. The speaker was attentively followed throughout by the entire audience, and the rippling laughter which from time to time passed over the assembly showed how keenly the occasional flashes of humour and wit were enjoyed by all. Mr. Hugh Brown then gave statistics showing the progress of the Infirmary work during the year, and stated that arrangements were now almost completed for beginning the erection of a new nurses' home. This is a work which is most necessary for the welfare of the Institution, intimately bound up, as it is, with the comfort and wellbeing of the nursing staff, and we are glad to learn of the progress it has made. After a few remarks from Mr. William M'Ewen and Professor Gairdner, the benediction was pronounced by the Rev. Mr. Paterson, and the gathering dispersed. The visitors then went through the wards inspecting the Christmas

gifts and New Year decorations, and altogether the meeting was of a most enjoyable and successful character.

**HOLIDAY ENTERTAINMENTS FOR THE PATIENTS AT THE WESTERN INFIRMARY.**—During the Christmas holidays the patients in the Western Infirmary were by no means forgotten. In each of the wards a tea was given, generally provided by the lady-visitors and their friends. On successive evenings the resident assistants, along with a few medical students, gave short concerts in the wards. On the last day of 1886 there was a Christmas tree in the Theatre. The large number of toys were distributed by the ladies and gentlemen present to the children and to the sisters, who keep their supplies for the children admitted throughout the year. Mr. Hamilton, Chairman of the Board of Managers, and ex-Bailie Dickson, also a manager, were present and gave short addresses. On New Year's day the usual dinner of roast beef and plum pudding was given to the patients. The different wards were visited by several of the Managers, and Professor Buchanan was present in his own ward and carved the beef. On the evening of 3rd January, a very good concert was given to a crowded audience in the Theatre by a number of ladies and gentlemen, among whom were several members of the Kyrie Choir. That the songs and instrumental pieces were appreciated was evidenced by the enthusiastic applause which was bestowed on the performers when Professor Cleland moved a vote of thanks. Though scarcely within the limits of the holiday season, we cannot omit to mention that an admirable representation of "She Stoops to Conquer" was given in the Theatre on the afternoon of Saturday, 18th December, by Messrs. Jack, The College, and a number of their friends.

**GUY'S HOSPITAL.**—"Perhaps the worst sign of the agricultural depression yet recorded is that Guy's Hospital is asking the public for subscriptions. "Guy's" has hitherto been a very proud hospital, and has kept house magnificently in the interest of the suffering poor on an income of over £41,000 a year, derived from estates in land. But the annual yield of these estates had been diminishing steadily since 1879, until, at the present time of asking, it has come so low as £26,000, with every prospect of further decrease. This means immense and far reaching suffering, for with the fall in income at the hospital there is, of course, a decrease in the number of beds. The total of 650 beds of the old prosperous times has been reduced to 500, and then to 400; and it is believed that the

worst has yet to come. At one time, when money meant money and land was land, Guy's lived in great charitable state on its fortune of £220,000 from Mr. Alderman Guy, and its £180,000 added by Mr. Wm. Hunt, a century later to make the round £400,000, and never asked the public for a penny. The money was laid out in estates in Herefordshire, Lincolnshire, and Essex, and the proceeds of it have given the poor of the south and the south-east of London a harbour of refuge in sickness and in accidents for 160 years." The state of matters recorded in the above extract from a daily paper is most distressing, and is sure to call forth the very cordial support of the general public for so deserving a charity. We sincerely hope that the fears which are still entertained of a further diminution of income will prove to be unfounded.

**ABERDEEN UNIVERSITY.**—The Queen has been pleased, on the recommendation of the Secretary for Scotland, to appoint Mr. John Theodore Cash, M.D., Professor of *Materia Medica* in the University of Aberdeen, in the room of Dr. Dyce Davidson, deceased. Dr. Cash has been for some years associated with Dr. Lauder Brunton, and has published many papers of physiological and therapeutical interest. He is a graduate of Edinburgh University, having taken his M.B. and C.M. there in 1876, and his M.D. (with a gold medal for his thesis) in 1879. Among the other candidates for the chair were Dr. Alexander Napier of Glasgow, and Dr. Stockman of Edinburgh.

**WESTERN MEDICAL SCHOOL.**—During the Christmas recess, James J. Carter, F.R.C.S.E., made some six longitudinal sections of a female subject, who died during extra uterine foetation. Three of those slabs were placed for inspection as fresh specimens before the members of the Medico-Chirurgical Society at the monthly meeting in January. At a future meeting of the same Society they will again be shown when Mr. Carter will make some remarks on the conditions present.

**MENTHOL PLASTER.**—We have pleasure in directing the attention of our readers to this new plaster prepared by the National Plaster Co., 67 Holborn Viaduct, London, E.C. We have had the opportunity of seeing it used both in the wards and in private practice, and so far we have been much pleased with the results obtained. In several cases of neuralgic pain, in which it was tried, it soon gave very distinct relief, and we have no doubt that this very elegantly prepared plaster will form a useful addition to the armamentarium of the family physician.

## CORRESPONDENCE.

## PROFESSOR M'CALL ANDERSON ON HOSPITAL ACCOMMODATION IN GLASGOW.

*To the Editors of the Glasgow Medical Journal.*

SIRS.—Having been a hospital physician for many years—first in the Royal and then in the Western Infirmary—I am in a position to form an opinion as to the sufficiency of the present Hospital Accommodation in Glasgow, a subject which has recently been much discussed in the public prints. There is no use of blinking the fact that, especially during the winter months, there are far more applicants for admission than there are beds to give them; but at the same time I believe that if we built any number of hospitals we would have no difficulty in filling them, provided we asked no questions, and admitted all patients indiscriminately. But I have come to the conclusion that, if we strictly limit our admissions to persons *in every respect* suitable, we can have no difficulty in accommodating them in the existing Infirmaries. In order to attain this result, however, two modifications of the existing arrangements must, in my opinion, be faced:—

I. *We must abolish Subscribers' lines*, except, perhaps, in the case of patients sent in by subscribers in public works and the like. The only passport to the wards of an infirmary should be that the patient is unable to provide for himself at home, that his case is one which demands in-door relief, and that he is likely to be benefited. It is a shocking idea, that a poor creature who has no friends, and who may be the subject of a serious complaint, is liable to be rejected, while he whose circumstances are fair, and who perhaps has not very much the matter with him, but who has friends who can provide him with a subscriber's line, should have a preferential claim to admission. It is an undoubted fact that many persons are sent by subscribers to our infirmaries whose means are such as to disqualify them for gratuitous treatment, or whose cases do not require, or are unsuitable for admission, but they are often received from the dread of giving offence to influential subscribers.

It may be said that the subscriptions would fall off were subscribers' lines abolished, but in connection with the Edinburgh Infirmary there are no such lines, and yet we find that the inhabitants of that city are fully alive to the necessity of supporting that noble institution. Indeed, it appears to me

to be little short of an insult to the inhabitants of this great city to suppose that, if no material advantage were to be gained by subscribing to our infirmaries, the fountain of their benevolence would be dried up.

II. *Cases of Bronchitis and Consumption should, as a rule, be excluded*, unless they are acute, or unless some complication is present, such as haemorrhage, or the like, which demands special treatment. The wards of an infirmary are, for the most part, unsuitable for a consumptive, for, instead of breathing the pure air of heaven, he is constantly inhaling the impurities with which the air of a ward is necessarily contaminated ; and the idea, which has recently been suggested, of erecting a special hospital for consumption, is, I am sure, repugnant to the feelings of the majority of my professional brethren, for thus the evils of admitting cases of consumption into the wards of a general hospital would be greatly intensified.

Are we then to fold our hands and to refuse relief to these poor sufferers ? That is not my opinion, although I am sure that many of them would be much more benefited by being all day long in the open air than by residing in the wards of an infirmary. But if, instead of spending more money on stone and lime, some of our philanthropic citizens would start a movement for providing funds to give such patients the benefit of long sea voyages, or of prolonged residence in certain elevated localities, they would thereby, not only confer an inestimable boon upon many a poor invalid, but also would have the satisfaction of seeing numbers of them return home greatly benefited in health, and, in not a few cases, cured of their pulmonary trouble.

I do not refer to surgical ailments, as I have no special experience of them, but I doubt not that my surgical colleagues are in a position to devise means to remove any pressure which may exist on the surgical side.

I have myself very little doubt that, if the above suggestions were acted upon, and if patients whose means are such as to render them unsuitable recipients of hospital relief were rigidly excluded, we should hear very little, for a long time to come, of the doors of our infirmaries being besieged by applicants who are unable to obtain admission to the wards.

24th January, 1887.

T. M'CALL ANDERSON.

**POSTSCRIPT.**—Since writing the above, a letter on "Open Air and Consumption," by Dr. Rushton Parker, has been published in the *British Medical Journal* (22nd January, 1887) which so fully supports the view

which I have expressed that I take the liberty of appending it:—"Three years ago, while riding about the west coast of the south island of New Zealand, examining on an average about a hundred men every month for the life insurance department of the Colonial Government, I was so struck with the absence of consumption (notwithstanding that the great majority of the men were emigrants from Great Britain), that I took some trouble to study the conditions under which they lived, with a view to finding some explanation. I was very soon led to the conviction that it was largely owing to their houses, which were invariably constructed of wood, and in all of which there was unintentionally the most complete and constant ventilation, by reason of the very imperfect contact of the overlapping boards that formed the walls, often so very imperfect that abundant daylight was easily visible also. Now, granting that in cows consumption prevails specially among those kept in numbers within stuffy dairies ; that in horses it is found specially among those aggregated in ill-ventilated stables ; that in monkeys it spreads among those herded together in cages ; granting also that in human beings consumption is found in largest proportion where the population is most dense, as in every large city in the world ; that it specially attacks indoor factory operatives, whether male or female ; that its prevalence in our own and other European armies was reduced from  $12\frac{1}{2}$  to  $1\frac{1}{2}$  per cent, by abolishing the stuffiness of barracks ; and that a similar improvement has been noted in our navy, gaols, workhouses, asylums, and schools ; granting, finally, that 10 per cent of our population still die of consumption, and that no other single disease kills half so many ; surely we may rely much more than we do upon the efficacy of fresh air, and leave a smaller number to prop themselves up with hypophosphites and cod-liver oil."

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## REVIEWS.

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*The Functions of the Brain.* By DAVID FERRIER, M.D., LL.D., F.R.S. Second Edition, re-written and enlarged, with numerous illustrations. London : Smith, Elder & Co. 1886.

THIS second edition of Ferrier's celebrated work is dated exactly ten years after the first edition, the latter bearing date October, 1876, and the former October, 1886. The views, which were novel then, have now become to a large extent current coin, and have worked themselves into the practical and clinical experience of the profession. In conjunction with the antiseptic system of treatment, these views have opened up a new world in the surgical treatment of brain disease. It may well be said by the author that "the indications furnished by the electrical irritation of the hemispheres have so guided and directed experimental and clinical research, that the physiology of the brain has made greater advances during the last ten years than in all the previous years of physiology

and pathology together." With this great advance the names of Fritsch and Hitzig, as the discoverers of the electric irritability of the convolutions, and of Ferrier, as the worker out and amplifier of the problems, will always be associated.

We find in the January number of this *Journal* for 1877 a long review of the first edition of Ferrier's book, written evidently with the enthusiasm begotten of the new ideas which had been so recently presented to the world of science. Even now, however, when the sense of novelty has to some extent worn off, the second edition will be read with nearly the same interest as the first, and the reader will pay special attention to the points in which advance has been made during the ten years that have passed.

The portion of the work on the functions of the spinal cord has been greatly expanded, and this expansion indicates a corresponding advance in our knowledge of the tracts which serve to conduct the various motor and sensory impulses. At the earlier date the experiments of Ludwig and Woroschiloff had only indicated that the motor and sensory paths were both in the lateral columns, but it was asserted that they were mixed up together as in a peripheral nerve. The differentiation of the pyramidal tracts, so strikingly demonstrated in descending sclerosis, and confirmed by the embryonic studies of Flechsig, had not yet been made. We observe that, in this edition, the author accepts with much less reserve the conclusion that the lateral columns of the cord contain the sensory tracts properly so-called—that is to say, the centripetal paths between the cord and the brain. He also accepts it as probable that these sensory tracts lie in the lateral limiting zone of Flechsig—that is to say, in the angle formed by the anterior and posterior cornua. One would expect these tracts to be affected with ascending sclerosis when the cord is divided, but it seems probable that they are in a continuous relation and connection with the cells of the posterior cornua, which would prevent their degeneration. It has been inferred by Brown-Séquard, on clinical data, that there is a differentiation of the paths for the different forms of sensibility, but the author believes that the facts are more readily explained by differences in the peripheral organs, rather than by the supposition of specific nerves and sensory paths. He also strongly asserts that the muscular sense follows the ordinary paths of sensation. "There does not seem to be a single fact which would indicate that the muscular sense can be abolished and the other forms of sensibility of the limb continue."

Our author has three important chapters on the functions

of the parts between the cerebral hemispheres and medulla oblongata, including chiefly the cerebellum and corpora quadrigemina (or optic lobes), but also the centres in the pons and crura cerebri. It is impossible to dissociate these parts entirely in their functions from the parts below, and from each other, but a good deal has been done by experiments on animals in that direction. Taking these parts as a whole there are three functions which they subserve, namely—1. Equilibration or maintenance of the bodily equilibrium. 2. Co-ordination of locomotion. 3. Emotional expression. Each of these functions is discussed at considerable length and with much ingenuity. In the maintenance of equilibrium the mesencephalon is the co-ordinating centre, and it is in communication, on the one hand, with the periphery by afferent nerves, and on the other, with the muscles by efferent fibres. There are three great systems of afferent nerves which subserve this function of equilibration—namely, organs for the reception and transmission of tactile or common sensory impressions; organs for the reception and transmission of visual impressions; and the semicircular canals of the ear and their afferent nerves. In regard to the last of these the author has a long and interesting discussion on the influence of the semicircular canals.

In co-ordination of motion, we require also, in addition to the centre, an afferent system and an efferent. The consideration of the former leads our author to the study of the phenomena of locomotor ataxia, and we have a discussion introduced here which did not find a place in the first edition.

Turning to the individual parts of the mesencephalon, the author discusses first the corpora quadrigemina, and it must be said that the difficulties of reaching such deep parts of the brain have so hindered direct experiment, that the views in regard to their function are somewhat divergent, and the author is much less definite in his conclusions than he was in his first edition. He regards it as only a hypothesis "that these ganglia form an essential portion of the mechanism of co-ordination of retinal and sensory impressions with the mesencephalic motor apparatus concerned in the complex responsive adjustments of equilibration and the other adaptive reactions of which animals are capable after removal of the other encephalic centres."

The functions of the cerebellum are stated with much greater definiteness, as many facts have been elicited both by experimentation and the study of disease. The cerebellum is in relation with the tactile apparatus, with the eyes and with

the semicircular canals, and as a co-ordinating centre in connection with these, it regulates the equilibrium and co-ordinates the movements of locomotion. In the latter especially it is under command of the centres in the cerebrum. It is an interesting fact in this connection that each half of the cerebellum is in relation to the same side of the body, the opposite being the case, of course, in regard to the cerebrum. "The functional relationship to the two sides of the body is therefore cross in the case of the cerebral hemispheres, and direct in the case of the cerebellar lobes; and thus each cerebral hemisphere acts in combination with the opposite cerebellar lobe. That this is so, and that the cerebellum acts in subordination to the cerebrum, is shown by the fact that in many cases of long standing disease of one cerebral hemisphere, atrophy ensues in the opposite lobe of the cerebellum. In a case of this kind which I have recorded, there was marked atrophy of the right lobe of the cerebellum consecutive to destruction of the anterior or motor region of the left hemisphere."

The functions of the cerebrum form the most important and largest section of the book. In the first edition this subject was very fully treated, and so far as the motor regions are concerned the functions were made out with a considerable approach to completeness. It may be useful for us here to indicate some of the facts which have been determined since then.

In the first edition, the angular gyrus which curves round the upper extremity of the fissure of Sylvius was asserted to have some relation to vision. Electric stimulation of this region produced movements of the eyeballs frequently associated with movements of the head to the opposite side, which were interpreted as indicating the excitation of subjective visual sensations. Extirpation of this region of the brain on one side produced blindness, which, however, was temporary in its duration. In the present edition the author says:—"Formerly I localised the visual centres in the angular gyri, to the exclusion of the occipital lobes. This, being only a partial truth, is an error; for the visual centres embrace not only the angular gyri, but also the occipital lobes, which, together, I term the occipito-angular regions." "In order to cause complete and permanent loss of vision in both eyes, it is necessary completely to extirpate both angular gyri and both occipital lobes." It seems rather astonishing that such a large portion of the brain should be devoted to the function of vision; but when we consider how much of our experience is obtained through the eyes, and that the visual centre is not only con-

cerned in the perception of objects, but also in the registration and organisation of them in our experience, our astonishment lessens. We must refer our readers to the book itself for the proof of the assertion that the visual centre is thus localised; we can only indicate that it rests on a somewhat extensive basis of experiment and observation. It appears further, from the result of experiment, that each hemisphere is not in relation merely to the eye on the opposite side, but rather to the corresponding half of each eye, the left hemisphere being related to the left halves of both eyes, and the right to their right halves. The observation of cases in which hemiopia has resulted from lesions of the cortex of the brain confirms this inference. An attempt is made to separate the functions of the angular gyrus and occipital lobes respectively. The author infers that while the occipito-angular region on either side represents the corresponding half of each retina, "the angular gyrus is the special region of clear or central vision of the opposite eye, and perhaps to some extent of the eye on the same side."

There is not much new in regard to the auditory centre, which is localised as before in the superior temporo-sphenoidal convolutions.

Considerable advance has been made in the localisation of the centre for tactile sensation, chiefly by the experiments of Horsley and Schäfer. The author has himself largely expanded his former results, and has, by fresh experiments, confirmed the conclusion that destructive lesions of the hippocampal region profoundly impair or altogether abolish the various forms of sensibility, including cutaneous, mucocutaneous, and muscular. The degree of the anaesthesia varies with the completeness of the destruction. It has been determined, however, by the experiments of Professors Schäfer and Horsley that removal of the entire hippocampal region on one side leads, indeed, to prolonged anaesthesia of the opposite side, but that there was a gradual recovery of sensation. It was evident, therefore, that this was not the entire sensory centre. The further experiments of these observers prove that removal of the gyrus *fornicatus* produces anaesthesia and analgesia very much like those which result from removal of the hippocampal region, and here also the duration is temporary. It appears, therefore, that the centre for sensation includes both of these regions, which together constitute the falciform lobe. The results of experiment seem to indicate that the centres of touch proper are the same as those of painful sensations, as well as of muscular

sensibility. It has not been determined whether the sensory centre is differentiated according to the different regions of the body, as we know the motor centre to be, but the author is inclined to think that the experimental evidence is against such differentiation.

The motor centres were the easiest to determine, both because of their situation in an easily accessible part of the brain, and because of the definite results of irritation or destruction of them. There is, therefore, in this part of the subject less that is new in the present edition. The most important addition is again due to Horsley and Schäfer. They have determined that the marginal convolution is the centre of the movements of the trunk, and those of the limbs on the trunk effected by the shoulder and hip muscles. These centres are, like all the others, related chiefly to the opposite side of the body, but, in conformity with the law determined by Broadbent, as these parts of the body have mostly a conjoint action on both sides, the centres are, to a large extent, related to both sides, and so complete paralysis cannot be produced unless both convolutions are destroyed.

There is a long chapter—in this edition considerably expanded—On the Hemispheres considered Psychologically. We are most interested in the parts which take account of the relation of the hemispheres to language, and especially as to the explanation of the curious phenomena of word-blindness and word-deafness. We have been long familiar with the essential facts of ordinary aphasia, connected with lesions of Broca's convolution on the left side of the brain. Our author, with much force and clearness, argues that, in acquiring speech, the experience necessary for such acquisition is, so to speak, registered in the left inferior frontal convolution, so that the destruction of this convolution implies the loss of the memory of words which had been registered there. In like manner, in acquiring the art of reading, the necessary experience is registered in the centre of vision, and more particularly in the left angular gyrus. Word-blindness has been found in the "few cases as yet investigated *post-mortem* to be associated with lesion, more particularly of the angular gyrus of the left hemisphere." So also our power of understanding spoken words is dependent on the experience registered in the centre of hearing, and word-deafness has been found associated with lesions involving the superior temporo-sphenoidal convolution, especially of the left hemisphere. All the centres connected with language are related to that concerned in the act of articulation noted in Broca's

convolution, but each of them may acquire a certain independence. The whole of the subject is fully discussed in the chapter under consideration, and we must refer our readers to it as a most ingenious statement of the arguments on this side of the question.

The last chapter deals with cerebral and crano-cerebral topography. In it the functions of the cerebral hemispheres in man are more particularly distinguished by comparison with the centres made out by experiments in the brain of the monkey. In addition, a full account is given of the relations of the convolutions to the skull. In view of the recent advances in the surgery of the brain, the importance of this section will be at once apparent. A full account is given here of the methods of Turner and of Reid, which are fully illustrated.

We have thought it right to give a somewhat fuller account of this work than is usual in the case of a second edition, but our readers will have gathered that, to a large extent, this is a new book, and will be read as such even by those who are familiar with the first edition.

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*On Fevers; their History, Etiology, Diagnosis, Prognosis and Treatment.* By ALEXANDER COLLIE, M.D. (Aberd.), Member of the Royal College of Physicians of London; Medical Superintendent of the Eastern Hospitals; Secretary of the Epidemiological Society for Germany and Russia. With Coloured Plates. London: H. K. Lewis. 1887.

A GOOD book "On Fevers," from the pen of one who has had such extensive experience as Dr. Collie of the Metropolitan Asylums Board Hospitals, must necessarily be welcome.

It would be out of the question to attempt here a detailed criticism of the work, chapter by chapter, but two or three points of great practical interest may be touched on in such a way as to indicate Dr. Collie's treatment of the subject.

The chapter "On the Treatment Generally of Acute Infectious Disease" contains a great deal of sound advice given in a clear incisive style. The author is evidently a believer in the *rational* administration of alcohol, as may be seen from the following extracts:—"But whilst alcohol is sometimes a useful and sometimes an indispensable article in the treatment of acute disease, it is not required in all cases." . . . "The quantity to be given in any particular case must vary widely. The age, sex, personal habits, and history of the patient must be considered; his general condition as to strength or weak-

ness, his appetite, his sleep, or want of sleep, the condition of his mind, and his idiosyncrasy as to alcohol. The nature of the disease will also have to be considered, its severity, its period, and its complication. There is no such thing as so much alcohol for a person or so much for a disease" (p. 21). He has a high opinion of the value of alcohol in scarlatina. "The present writer is satisfied that life has been saved in the case of children with scarlet fever, which, without alcohol, would have been lost."

Dr. Collie's opinion regarding the use of the *cold bath* may be gathered from the following extract. Speaking of the means for procuring sleep he says (p. 24):— . . . "A warm bath may be given, especially in the case of young children and elderly persons; but in the case of young adults who are not very bad, and who preserve their strength fairly, a cold bath of about ten minutes duration, at a temperature of 60° F. may be administered; but the cold bath *should not*, in the writer's opinion, be given in typhus, in influenza, relapsing fever, diphtheria, erysipelas, malignant fever, meningitis, haemorrhagic small-pox, or measles; nor in cases where there is haemorrhage from the bowels, peritonitis, cardiac weakness, pneumonia, nephritis, or strong dislike of it on the part of the patient." . . . "In the case of *hyperpyrexia*, however persistent, from 105° F. and upwards, whether in young or old, a bath more or less cold, regard being had to all the circumstances of the case, should not be omitted except when the hyperpyrexia comes on quickly at the end of the disease, and is the expression of rapidly approaching death."

It is evident that Dr. Collie does not believe in the "routine" cold bath treatment of fever.

The following extract from the chapter on the treatment of enteric fever gives an excellent summary of Dr. Collie's opinion on this important subject (p. 96):—"The general conclusion formed of the value of the bath was that, in the milder cases, and in some of the severe cases in the early period of the disease, the bath, given once or twice daily, was a useful way of relieving the discomfort produced by the heat, of allaying restlessness, and producing sleep; that, beyond temporary relief of symptoms, it had no effect on the course of the disease or on the general mortality; and lastly, that, in the severe cases, the remedy was inadmissible, owing to its depressing effect on the body generally, to the exhaustion which its administration entailed, but, above all, to its definite and marked effect upon the circulation, which it invariably greatly weakened. In other words, that the bath

was useful in relieving symptoms in those cases whose natural termination is recovery: inapplicable, by reason chiefly of cardiac weakness, in those cases whose tendency is towards death; that is, in the cases in which specific treatment is needed."

This statement should be pondered over by the advocates of the "cold bath" treatment of enteric fever. Under the etiology of enteric fever Dr. Collie discusses the question of the infectiousness of that disease, a question to which he has given particular study, and in which, therefore, his opinion is of great value.

At page 53 he says:—"It has been maintained by Dr. Budd that it is infectious—that is, communicable from person to person by direct personal intercourse. In support of this view, Dr. Budd showed how the disease spread through a household; how the inmates were attacked successively; and how persons sick of it transported it into new localities. The experience of the Homerton Fever Hospital is in entire accordance with this view. Thus, during the eleven years that this hospital has been open as a fever hospital, thirty of the attendants contracted enteric fever, twenty-eight of whom were nurses of enteric fever patients."

Dr. Collie quotes Dr. M'Neill's very interesting history of an outbreak of enteric fever which occurred in the Island of Colonsay, and in which the disease went from house to house. Dr. M'Neill's descriptions are clear and graphic, reminding one of those in Budd's classical work.

The whole subject is of great importance, and the reader who refers to Dr. Collie's pages will find much to interest him.

We can recommend Dr. Collie's book to the student of fevers. The writing is vigorous, the descriptions are good. The volume is of handy size, it is well printed, and illustrated by coloured plates.

We hope that the work will meet with a very favourable reception.

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*Spasm in Chronic Nerve Disease; being the Gulstonian Lectures delivered at the Royal College of Physicians of London, March, 1886.* By SEYMOUR J. SHARKEY, M.A., M.B., Oxon., F.R.C.P., Assistant Physician and Joint-Lecturer on Pathology at St. Thomas's Hospital. London: J. & A. Churchill. 1886.

MANY of our readers will have already seen these lectures, which were published in the *British Medical Journal* at the

time of their delivery. They deal with a subject of very great interest and complexity, but they do not traverse the whole ground.

The first lecture treats of spasm in connection with cerebral motor mechanisms, and naturally attention is early directed to the localisation of the motor tracts in the brain and cord. In the position of the centre for the arm, anterior to that for the leg in the internal capsule, Dr. Sharkey finds "at least part of the explanation of a long observed clinical fact—namely, that in hemiplegia in connection with disease of the central ganglia, the arm is usually more paralysed than the leg. For haemorrhages from the branches of the lenticulo-striate artery would, from their position, press more upon the anterior than upon the posterior division of the motor segment of the capsule, and this is the vessel which most frequently bleeds." This is an explanation somewhat at variance with that offered by Dr. Broadbent, but it has the advantage of being based on anatomical grounds. Early notice is also given to the phenomena of knee-jerk and ankle-clonus, and the theories as to the production of the former are discussed in some detail, the author leaning, with the aid of apparently sound arguments, to the view that the jerk is a true reflex, while at the same time he admits that we know too little about reflex phenomena in general to be in a position to dogmatise on this subject; and he points out that for all practical purposes the myotatic and the reflex theories are equally applicable clinically, the keynote to both being the integrity of the reflex arc. He also holds that "the excessive tendon-reflexes and contractions which result from descending sclerosis are merely evidences of abolition of the function of the cerebral motor tract which, in health, controls the action of the spinal ganglia." At the same time he does not consider that the appearance of these phenomena proves the existence of gross or tangible lesion of the cerebral motor cells or fibres, and, from our own experience, we entirely concur with him in this view.

Perhaps the most instructive portion of the first lecture is that devoted to the consideration of four cases of tumour—situated between the central ganglia of the brain and the medulla oblongata, and pressing on the motor tract—from which he draws the following important diagnostic conclusions:—"If the motor tracts be affected simultaneously, or quickly one after the other, in the way about to be mentioned, the disease is likely to be situated between the basal ganglia above and the medulla below, and is, in all probability, a tumour. The earliest symptoms referable to the pyramidal

tract are tremors; then come paralysis and rigid contraction, which is finally permanent; and besides these, there may occur from time to time attacks of tetanic spasms, affecting most of the muscles of the body. The phenomena of chronic spasm are due to gradual pressure on the motor tracts, proceeding from the central convolutions of the brain; and the fact that both sides of the body are attacked indicates that the disease is situated at a part where the pyramidal tracts are in close proximity to each other." These phenomena are most likely to be met with if the tumour be a hard and slowly growing one—less likely if it be soft. The lecture concludes with some remarks on the functions of the cerebellum, Dr. Sharkey differing from Hughlings Jackson in believing that we are not justified "in considering that disease of the cerebellum produces spasmotic contraction of muscles, except indirectly, by pressure upon underlying structures."

In the second lecture, among other things, mobile spasms are passed in review. He does not think that they can be attributed to any lesion constant either in its nature or in its position, but that "all varieties of mobile spasm seem to result from a mixture, in varying proportions, of paralysis, spasm, and irritation; and their development depends upon lesions which interfere with the perfect functions of the motor centres and fibres, but which do not completely interrupt them."

The concluding lecture treats of spasm in connection with spinal motor mechanisms and with functional spasm, the explanation offered of the latter being a hypothetical one—namely, that molecular changes have occurred in the same situations in which gross lesions are known to occur, and of which examples had been given in the earlier parts of his lectures. We consider the hypothesis is supported by the arguments he adduces, and that it may hold the field till a better is brought forward, or more definite information is obtained.

In these lectures we have not seen much that is novel; but they have brought together in a convenient form many interesting facts bearing on the subject of spasm, and those interested in the question will find in them both useful information and suggestive hints to promote further investigation.

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*On Cancerous Affections of the Skin: a Treatise on Epithelioma and Rodent Ulcer.* By GEORGE THIN, M.D. London: J. & A. Churchill. 1886.

THE author has succeeded in producing a most excellent and masterly monograph on two very important diseases—Epi-

thelioma and Rodent Ulcer. While the work consists largely of references to the classical treatises on the subject, it also contains many original and valuable observations on the part of the author himself. The author's style is pleasing and attractive, and we imagine that none of our readers will lay down the book after perusal without feeling that his knowledge has been extended, and his views rendered more definite. To many of our readers not the least interesting part of the book will prove to be the accurate, clear, and incisive clinical descriptions, which really form word-pictures of very considerable power. In the Classics, however, these descriptions have already been written, and but little can be added to them, so that, in our opinion, Dr. Thin deserves most to be congratulated upon the excellence of the histological part of his book, which proves him to be not only an accurate and accomplished histologist, but also an observer who logically endeavours to interpret the true meaning and significance of the appearances he has seen. Every one who has any experience of microscopical work will read the histological speculations with great pleasure and profit, whether he is able to agree with all the opinions advanced or not. The whole tenor of the book proves it, we think, to be a conscientious endeavour to arrive at the truth apart from all other considerations, and as such it cannot be too highly commended. While saying this we must also state that, although on the whole we agree with the opinions expressed, there are a few points here and there concerning the accuracy of which we are not quite so sure.

For example, the author inclines to doubt whether the sebaceous glands can take part in a cancerous growth of the skin. We have examined cases presenting features of ordinary epithelioma of the lip, with regard to which we could arrive at no other opinion than that they had originated in the glandular appendages of the skin. In speaking of "laminated capsules," nothing is said of the effects of pressure in producing the condition; and in discussing the origin of the epithelial structures, he adopts the theory of spermatic influence—*i. e.*, "a wandering cell, brought under the influence of an epithelial cell, may itself become epithelial." We think that this is a more difficult theory to prove than the old one of cell-division, and we are rather surprised to find it advocated by one who rejects Virchow's doctrines of the origin of cancer:—"Cancerous epithelium is evidently a connective-tissue poison." The statement is ingenious, but we cannot accept it altogether as a strictly accurate explanation of the facts. It shows,

respond to light, while the right pupil was of a normal size, and responded only feebly to light. External squint of left eye. Head drawn to left side. The right arm was moved about in an aimless way, tapping the right side of the head and picking at left arm. The left arm and hand lay motionless; but on pinching the hand the forearm was occasionally slightly moved, but there was no motion at shoulder-joint. On pinching the right lower limb, slight movement of the toes and an attempt to draw up the leg followed; but the left lower limb, when similarly treated, remained quite motionless. Swallowing performed with difficulty. During the afternoon she had several attacks of hiccuph.

*18th February.*—Died this morning at 5 o'clock, twenty-one hours from commencement of seizure, without having regained consciousness.

From the cardiac symptoms and the history of slight apoplectic attacks before admission, embolism was suspected to be the cause of death; but the *post-mortem* showed it to be due to extensive haemorrhage into the brain.

*Post-mortem.*—While removing the dura mater a small piece of brain matter about  $\frac{1}{4}$  of an inch thick came away adhering to it, revealing part of a dark-coloured clot. When fully exposed the clot was found to be about the size of a hen's egg, and to occupy a corresponding area of the posterior and middle lobes of the right hemisphere. The brain matter surrounding it was in a semi-diffused condition. The outer and larger portion of the clot was very dark, and appeared to be older than the inner portion, which was more florid and less firm. This inner portion was continuous, through a minute rupture in the *eminentia collateralis*, with a clot occupying the whole extent of the right lateral ventricle, and this again through the *foramen of Monro* with a clot in the third ventricle, what apparently was the more recent haemorrhage having manifestly burst through the outer wall of the lateral ventricle, and so on to the third ventricle. The left lateral ventricle was occupied by about an ounce of a raspberry-coloured fluid. That part of the outer wall of right ventricle abutting on the main clot was represented by only a thin layer of brain substance. The vessels of the *pia mater* were much congested, while over the seat of the clot and for some distance beyond these was considerable haemorrhagic effusion into the sulci and over the convolutions. The other parts of the brain appeared to be in a normal condition.

*Heart.*—Two of the cusps of the aortic valve had each a warty vegetation situated on the *corpus arantii*, while the

third cusp on the same situation presented a rough thickening. Both flaps of the mitral valve were the seat of rough irregular thickenings.

*Lungs.*—Both in a congested condition and the base of the left semi-solid. No evidence of tubercle.

On opening the abdominal cavity, the stomach and liver were seen to be very much pushed down and the intestines correspondingly low in the abdominal cavity. The liver was very much compressed laterally, so that the measurement from above downwards was greater than from side to side. Spleen considerably enlarged and congested. Kidneys congested.

**CASE OF WHOOPING-COUGH COMPLICATED WITH PULMONARY COLLAPSE AND EXTENSIVE SUBCUTANEOUS EMPHYSEMA—DEATH—POST-MORTEM.**—[Under the care of and reported by Peter Hodge, M.B., C.M., late Senior Assistant Physician.]—Wilhelmina M., æt. 3, admitted to Hospital 13th January, 1885, with whooping-cough. No history as to date of illness. On admission the whoops were severe and frequent. Lungs free of râles.

*15th January.*—Whoop continues severe. Large moist râles heard over the lungs, and occasional wheezing.

*29th January.*—The past four days the cough has been particularly frequent and severe. There is marked relative dulness over base of left lung, and over both lungs posteriorly tubular breathing is heard. The right side of face is slightly swollen, and over the right side of chest in front there is a fulness, and on palpating both these regions the characteristic crepitation of subcutaneous emphysema is detected.

*30th January.*—The emphysema has extended to left side of face, and also to the left side and back of the chest. Since the appearance of the emphysema the cough has been very slight, and coming on only at long intervals. Trace of albumen in urine to-day.

*31st January.*—Swelling of face much increased, and the emphysematous condition has now extended over the whole trunk. It has also extended down the front of the arms, but apparently limited to the course of the large vessels. Urine scanty, and still contains trace of albumen.

*2nd February.*—Emphysema is extending along the right thigh and leg, and upper part of left thigh, but only, as far as can be made out, along the course of the large vessels.

*3rd February.*—Features almost obliterated, and eyes quite closed up. The right leg has a lobulated appearance from extension of the emphysema. White froth coming from

mouth, but there have been no convulsions, and although lying quiet she appears to be quite conscious. Slight dyspncea, but cough troubling her very little.

*4th February.*—Several punctures were made behind each outer canthus, and on pressure being applied over the eyelids toward the punctures a quantity of air escaped, after which the girl was able to open her eyes. Physical examination shows that there is considerable dulness all over the lungs, but most marked posteriorly.

*5th February.*—Early this morning she was seized with a sudden fit of rapidly succeeding short coughs, and appeared to be struggling for breath. This continued for about five minutes, when she died. There was no marked lividity during this paroxysm. At the time of death the emphysema was present in the subcutaneous tissue of the face, neck, whole trunk, and greater part of the front of arms and lower limbs.

*Post-mortem.*—The areolar tissue of root of left lung and of the mediastinum up to the neck, was infiltrated with air. No effusion into pleural cavities, and no adhesions. Both lungs were the seat of vesicular pneumonia, while in the case of the left there was, in addition, collapse of the lower lobe, and well-marked interlobular emphysema. On the upper surface of the lower lobe, and at the apex and anterior margin of the upper lobe of this lung, there were several large isolated elongated emphysematous blebs, while the sub-pleural tissue generally was infiltrated with air.

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## MEETINGS OF SOCIETIES.

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### PATHOLOGICAL AND CLINICAL SOCIETY.

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SESSION 1886-87.

MEETING I.—11TH OCTOBER, 1886.

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JAMES FINLAYSON, M.D., *President, in the Chair.*

DR. FINLAYSON said that on taking the chair he had to thank the members for the honour they had done him in electing him President for this session. Since his election he had been so much occupied with some urgent work that it was quite impossible to find time to prepare an address worthy of the

attention of the Society. Possibly on some future occasion he might have an opportunity of addressing them from the chair.

Since their last meeting the Society had to mourn the loss of one of their members. It was perhaps remarkable that during the thirteen years of the Society's existence only two deaths had occurred amongst those associated in the membership. The first death, some years ago, removed one of their youngest members—Dr. David Foulis. He died at the beginning of what might be called a distinguished, although a short, career. He was one of the most active members of this Society; his communications were most important, and his contributions to the business or the discussions were always looked forward to with the greatest interest. Last summer, in Dr. Scott Orr, one of the oldest of the members had been removed by death—one who, after a long career as a practitioner and a consulting physician, and after filling nearly every office of honour and trust to which he could be elected by his fellow practitioners, succumbed near the end of the allotted term of human life. He was not such an active member of this society as Dr. Foulis, but from the very first, even before he joined the Pathological Society, he was useful to it in placing freely at the disposal of the younger members of the profession, who then constituted the Society, any materials from his wards or his practice which might be of use. Somewhat later he became a member himself, and aided the work of the Society, not only by occasional contributions, but by giving at times, in the course of the discussions, the results of his long experience as a physician. He was so well known, and so much respected by all, that the members mourn, in his death, the loss of one of their best friends.

DR. JOSEPH COATS showed specimens from a *post-mortem* made this morning. He had charge of the case in Dr. Gairdner's wards during the absence of the latter. The notes in the Journal were read. The case was regarded as possibly one of three conditions—viz., as an inflammatory affection of the abdomen; as a tumour; or as a thickened omentum due to tubercular peritonitis. The case turned out to be one of those tumours of the abdomen which are properly designated lympho-sarcoma. The tumour existed in the upper part of the mesentery, and extended into the jejunum. The glands in front of the vertebral column were also enlarged. Dr. Whiteford, who had sent in the case, regarded it from the first as one of malignant disease.

*Dr. Gairdner* had not seen the specimens till now, but his opinion was that the whole pointing of the case was towards malignant disease, but there were also many elements in it which suggested a thickened omentum, the result of tubercular disease. There were many difficulties in diagnosing between enlargement of the mesenteric glands due to tubercular disease, and that due to other tumour formations. This resolves itself into one of a very uncommon class of cases. He was on the look-out for twenty years for a typical case of *tabes mesenterica*, such as corresponded with the classical description. At length he found one, and although it had the anatomical features it had none of the clinical features. Here, however, was a case with many of the clinical features of *tabes mesenterica*, but the anatomical features did not at all correspond.

**MR. MAYLARD** showed a case of **LYMPHO-SARCOMA** of the **NECK**. He had seen it in the dispensary to-day. The patient was a child, aged 4 years; the growth commenced as a little tumour below the left ear, and had grown in 7 months. It now occupied the whole of both sides of the neck. The breathing was now becoming affected. The tumour was free from the larynx, and movable on it, and the superficial veins were much enlarged. Latterly it had become very painful, and he had now a severe cough.

**Dr. ROBERTSON** showed a case of **SUB-PERICARDIAL HÆMORRHAGE**, and said that *Dr. Newman* had directed his attention to it. The case was one of extreme anæmia—in fact, pernicious anæmia. There were distinct murmurs, especially over the base of the heart. He had not seen much of the case, as it was in the wards while he was on holiday.

*Dr. Newman* said the specimen had lost much of its original appearance since its removal. The hæmorrhages were not limited to the pericardium, but were also on the surfaces of pleura, &c. The special feature was the extreme anæmia, associated with enlargement of the spleen. The spleen was enlarged, and very hard, although it had appearance of being pulpy. The hæmorrhages were much more abundant on the surface of the pericardium than elsewhere, especially over the right ventricle. The explanation of the hæmorrhage seems to be extreme anæmia, leading to alterations in the capillaries. The blood was very bright, and extremely watery. The case was somewhat rare.

DR. JOSEPH COATS showed a case of severe INJURY OF THE HEAD from blows with a hatchet, in which HEMIPLEGIA AND EPILEPTIC ATTACKS have supervened, the latter beginning with localised spasm, and going on with a uniform course to general convolution. (See page 111.)

*Dr. Gairdner* had nothing to say further on the localisation, as he had not studied the case with any minuteness; but, as it is stated, it had a very interesting relation to a case which he observed some years ago, where the most persistent form of Jacksonian epilepsy was observed over a lengthened period. The man had 150 fits in the day, and did not lose consciousness, in this regard differing from present case. As the fits were very numerous, and never went on to complete convolution, it was comparatively easy to trace the localisation. At first the convulsions were in the upper part of the body in the cheek, &c., and at this stage there was a tendency to aphasia which was never complete. The arm next became involved, leg remaining free. In the progress of the case the fits altered their localisation, the leg being now involved, and with this change the tendency to aphasia disappeared. Under very large doses of iodide of potassium pushed to extent of producing fever and boils, and when he was in despair of doing good, the disease began to get better, and went out perfectly cured of his epilepsy.

*Mr. H. E. Clark* had a case of traumatic epilepsy under his care for eight years, which had some points of resemblance to this one, except that the lesion was at back part of head. He trephined and elevated the bone. Convulsions came on five years after the injury, and after it passed from his care, hernia cerebri, leading to loss of substance, had occurred. The depression extended forward to the ascending parietal convolution. Convulsions commenced in the right arm, and then extended over the whole body. There was around the edge of depression a feeling of inversion. When he came to trephine he found less inversion than was apparent, and what seemed to be bone was strong membrane. As the result of cutting down and removing bone, there had been an increase of the fits to 15 or 20 a day. Convulsions were not complete, and there was no loss of consciousness. There was loss of substance in both cases, and it seemed that these cases were not very favourable for operative interference. He thought this a practical point of some significance. The last report he had of the boy was that he was better, and had

fewer fits. One should be rather cautious in interfering with such cases.

*Dr. Robertson* said that there were two things to be looked at. There was the paralytic condition revealed by the drawing up of the arm, which was due to descending sclerosis. This could not be benefited. The other point was as regards the fits, and he thought that these might be benefited. Medicinal treatment should at first be thoroughly exhausted. The fits were probably due to inflammatory products, and this might be improved by medicine. If this failed, one was justified in making an exploratory operation.

*Dr. H. C. Cameron* wished to mention a practical fact. Dr. Coats stated that where a portion of brain had been removed, that there must necessarily be great dislocation of the brain tissue remaining behind. He observed this in a case many years ago. A boy was brought into his wards with a large hernia cerebri, which he shaved away, and applied pressure. The wound cicatrised, and he got very well. On admission he was idiotic, unable to speak, and passed everything in bed. All this passed away, and he got fairly well. Before dismissal, however, he died from suppuration within the cranium. A large abscess was found in the uninjured hemisphere. The longitudinal sinus was dragged from its position in the middle line over to the right, so as to be near the point of injury, to which it was adherent.

*Dr. M'Vail* had a case in which there was a good deal of similarity, but no loss of brain substance, and which had resulted from a blow on head many years ago. A sensation of cramp begins at the lower part of the spine, travels up, then passes down to left wrist, which he has to hold tight. In a few minutes the sensation is in the right knee, it travels down, then the right leg becomes convulsed, the tonic spasm gives place to clonic spasm, a sensation of trickling water passes up the right leg, crosses, and goes down the left. Then the left leg is convulsed. Then it retrogrades. He has no complete epilepsy, and he can stop the fit by grasping the right knee when the spasm does not travel upwards. He had not seen the whole of this order of events, but it has gone on for 20 months. He has only had six complete fits, because, being compelled to grasp the right thigh the fits are stopped. And fits only occur in out-of-the-way situations. Three years ago he was struck with a chain over the left temple, which simply caused abrasion, but knocked him 15 feet away, and fractured

his scapula. He was not unconscious, and in eight weeks he resumed work. Twenty months ago he began to suffer from the present illness. As result of large doses of bromide he had improved. The speaker then referred to Victor Horsley's cases reported in the *British Medical Journal*, and referred to the necessity for excising the discharging centre.

*Dr. Macewen* remarked that he had nothing to say. He would not venture to say anything without having had the opportunity of studying both the case and the clinical record in quiet. If he said anything at all he was afraid that he would say too much.

*Mr. Maylard* said that Dr. Coats had remarked that there might be some little difficulty in localising the centre on account of the dislocation of parts, but the speaker thought there must be very great displacement before this could enter into consideration, especially when one remembered that Mr. Victor Horsley used a trephine 2 inches in diameter.

**DR. MACEWEN** showed a specimen of **SUBUNGUAL EXOSTOSIS**, removed from the ungual phalanx of the great toe of the left foot of a healthy girl 16 years of age, who had been previously treated for ingrowing toe-nail.

It is of interest to recognise these affections, because at first they are mistaken for ingrowing toe-nails.

**DR. NEWMAN** showed some little **MASSES**, composed of **LARGE CRYSTALS OF TRIPLE PHOSPHATES CEMENTED TOGETHER BY BACILLI**, passed periodically from the right ureter of a man, who, with the exception of occasional renal pain, apparently enjoys good health.

**DR. MIDDLETON** showed a specimen of **SALIVARY CALCULUS**, for Dr. Macpherson of Cambuslang. The patient was a young man, who came to him on account of a swelling in the floor of the mouth, and under ordinary treatment the calculus was spontaneously discharged. A recent writer had advanced the theory that all calculi were due to bacteria, a foreign body being introduced carried in organisms; a nucleus was thus formed, and thereafter the calculus went on increasing.

## GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1886-87.

MEETING I.—20TH OCTOBER, 1886.

DR. MARSHALL, Coatbridge, exhibited an infant (now five months old) from whom he had successfully removed a meningocele from the region of the occiput when it was, as yet, only a few days old, and whose case, along with the tumour itself, formed the subject of a former communication.

DR. G. A. TURNER, for the Council, proposed an alteration of the 5th Rule of the Society, whereby the words "and Secretary" were amended to "and two Secretaries."

Thereafter the Treasurer's statement was received, from which it appeared that there was a clear balance of £3, 13s. 2½d. in hand after defraying all preliminary and other expenses connected with the formation and inauguration of the Society.

The SECRETARY then read his report, from which it was found that the Society was in a flourishing condition, comprising, as it did, no less than 74 members. An epitome of the work of the first Session was read; and, in conclusion, the Secretary hoped the Society would always be able to show as good a tale of work done.

A ballot was now taken for Dr. J. Nigel Stark, who was elected a member.

The election of office-bearers was then proceeded with, and the nominations of the Council were unanimously sustained.

They were as follows, viz.:—

<i>Hon. President,</i>	...	...	PROFESSOR LEISHMAN, M.D.
<i>President,</i>	...	...	SAM. SLOAN, M.D.
<i>Vice-Presidents,</i>	...	...	{ ABRAHAM WALLACE, M.D. J. STUART NAIRNE, F.F.P.S.G.
<i>Treasurer,</i>	...	...	ROBERT POLLOK, M.D.
<i>Secretaries,</i>	...	...	{ DR. ROBERT PARK and DR. GEORGE A. TURNER.

*Council*—M. CAMERON, M.D.; GEORGE HALKET, M.D.; J. MARSHALL, L.R.C.P.Ed., Coatbridge; JOHN GLAISTER, M.D.; W. L. REID, M.D.; P. C. SMITH, M.D., Motherwell.

The PRESIDENT, Dr. W. L. Reid, now retired from the chair, and, in doing so, said that he thought the Society was fairly to be congratulated on the quality and quantity of the work done during its first session. There was abundant material in a large city like Glasgow to occupy their attention. He trusted members would have no hesitation in bringing forward cases

and specimens. The Society would not expect elaborate papers with them, but would be pleased to know the "how" and the "when," and endeavour to supply the "why" itself.

DR. SLOAN, on assuming the Chair, moved a vote of thanks to the retiring President in graceful terms, and then exhibited A PESSARY, which had been incarcerated for some months in the vagina of an aged patient. The woman had had the pessary introduced six months prior to Dr. Sloan's examination on account of a supposed anteflexion—Graily Hewitt's "Cradle" being the one employed. Examination revealed the fact that the instrument had become displaced anteriorly, causing pressure on the cervix, and eventually leading to hypertrophy of the latter, and to the imbedding of the posterior limb of the pessary in its tissues. In order to extract the pessary, Dr. Sloan filed through the anterior limb. One of the principal symptoms of which the patient complained was pain at the navel.

Dr. Sloan laid emphasis upon the necessity which lay upon every man to explain to the patient that whenever a pessary caused pain or discomfort it ought to be removed and that at once. He added that the woman was now the subject of procidentia, but that she felt so much better, comparatively, that she elected to be without support.

Dr. W. L. Reid stated that he had used this form of pessary frequently for anteflexion, and never found harm to result, but, on the contrary, in at least half the number of cases, much benefit.

Dr. Wallace alluded to a case which had come under his observation of an incarcerated Blackbees pessary.

Dr. Park remarked that the facts set forth seemed to indicate that it was not the pessary which had been to blame, but rather the omission of due care to prepare the parts for the introduction of an artificial support of any kind, and to see that the parts were not irritated by the support after introduction.

Dr. M. Cameron homologated this, and Dr. Sloan having supplemented his previous observations,

DR. GLAISTER read the first half of a paper on the "STATE OF THE ART AND SCIENCE OF MIDWIFERY FROM THE DAWN TO THE MIDDLE OF THE 18TH CENTURY."

Quoting from Sir Fielding Ould and Smellie, he gave graphic illustrations of the ethical disorder and general ignorance in which the practice of the art was sunk during this period.

Passing on, he traced the inception of the science through

the works of Portal, Pugh, Dionis, Deventer, La Motte, Amande, and Edward Moubray. He specially emphasised the fact that as early as 1733, Edward Moubray gave an account of the forceps in the *Edinburgh Medical Essays*. Then, after alluding to Manningham, he gave some interesting biographical information concerning Smellie, whose first volume was published in 1751 albeit it bears the subsequent year's date on the title page. The second volume was published in 1754, and the third in 1764. He informed the Society that Smellie's Library had been bequeathed to, and was now the possession of, the Lanark Grammar School, where are also the original plates from which his drawings were made. The date of his death was given as 1763.

After referring to Wm. Hunter and to Chapman, who, he said, was the first to describe forceps, after having used them for about 20 years, he passed on to give some interesting information concerning the Chamberlens. It seems that they were a Huguenot family, and numbered two when they immigrated from France—viz., Dr. Peter, the elder, and Dr. Peter, the younger. The former was granduncle to Paul Chamberlen, and the latter father of Hugh, who translated *Mauriceau*. He did not claim the invention of forceps, but that his family had extensively used them. Dr. Glaister went on to explain how the forceps came into the possession of the family, and indicated that they were in general use all over Europe in 1742. He then read the description of the forceps given by Smellie, as well as his instructions for employing them, and rendered an account of his invention of the "lock," thus superseding the "pin" fixing in previous use. Finally, he said it was doubtful whether to Smellie or Pugh was owing the invention of the "double curve."

After a few remarks from the President, Dr. G. A. Turner tabled a motion to the effect "that in future the meetings of the Society be held on the second Tuesday of each month."

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#### ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

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#### MEDICINE AND PATHOLOGY.

**Tubercular Bacilli in the Supra-Renal Capsules in Addison's Disease.**—Mr. Goldenblum, of the Pathological Institute of Dorpat, records a case where the bacilli were found by Ehrlich's method in the caseous supra-renal capsules

of a genuine and typical case of this disease. He points out that already P. Guttman (*Deutsch. Med. Wochensch.*, 1885, No. 29) and Rauschenbach, a Russian (*Wratsch.*, 1886, No. 1), had recorded cases where the bacilli were found in the capsules, but where, in addition, many other organs were caseous. In neither of these cases either were any of the symptoms of *Morbus Addisonii* present. In Goldenblum's case there was no caseation in any other part of the body except in the capsules, and bronzing of the skin and mucous membrane was well marked.—*Virchow's Archives*, vol. civ, page 393.

**Etiology, Prognosis and Treatment of Tubercular Peritonitis.** In a recent clinical lecture, M. Deschamps describes several typical cases of tubercular peritonitis, and discusses various points in regard to the disease. As to etiology, the peritoneum being a closed cavity, tubercular matter must be carried to it either directly or indirectly. Direct infection, as by wounds, is very rare. For indirect infection there are various channels. (1.) The intestinal canal, the primary symptoms being diarrhoea, nausea, vomiting, and abdominal pain, especially at the level of the junction of the ascending with the transverse colon, where a tumour, largely due to faecal accumulation, is often found. This typhlocolitis, with peritonitis, is sometimes recovered from in a marvellous way under treatment; but at other times the disease advances, gains the under surface of the diaphragm and invades the pleura. In these cases the bacillus is introduced into the intestines with the food, and the angle between the ascending and transverse colons is a favourite site for the arrest and development of the bacilli; thence they invade the abdominal walls, cause obstruction, and faecal tumour, and then invade the peritoneum. (2.) The blood, in which case the peritonitis is generalised, and secondary to tubercular disease elsewhere. In the case described in the lecture, caseous bronchial glands had infected the lymphatics, and these the blood. (3.) The pleuro-pulmonary or diaphragmatic channel, as, e.g., when the primary disease is in the lung, from which the pleura becomes infected, the bacilli then traversing the lymphatics of the diaphragm to reach the peritoneum. It appears as if these lymphatics caused the cavities of the pleuræ and the peritoneum to form one sac as they do in the foetus. (4.) The genital organs—i.e., the ovary—tuberculosis of these rapidly extending, as a rule, to the peritoneum. (5.) The iliac glands, as in cases of tuber-

culosis of the hip. In this case the peritonitis is primarily located in the iliac fossa.

Does the clinical picture vary with the mode of invasion? Yes and no. As noted above in the case of propagation by the intestine there are characteristic symptoms at the outset, and a characteristic mode of spreading, differing from those met with when the mode of propagation is different. And yet in certain cases the symptomatology may present no relation to the etiology. Whatever the mode of invasion, if the bacilli are developed around vessels and compress them, then there will be marked ascites as a leading feature. Again, if the tubercular granulations are developed along the bile ducts, and compress them, jaundice will be a marked symptom. In one case the chief complaint was of double sciatica, the tubercular masses compressing the sciatic nerves. When the tubercles invade the mesentery and the omenta, then the intestines become adherent, and form a mass in front of the vertebral column, and the abdominal walls follow the intestinal mass, the abdomen becoming hard and retracted. Then, again, the general aspect of the patient depends more on the rapidity of progress of the tuberculosis than on its mode of invasion.

The etiology of the infection has an influence on the prognosis. M. Deschamps strongly insists that physicians have hitherto taken a far too gloomy view of tubercular peritonitis. Under certain circumstances he considers it curable, especially if it has developed through the intestinal or genital channels. The treatment he recommends is by revulsives, and especially repeated vesication, which is particularly applicable to the painful forms. Food must be moderate in amount and simple in character—milk, eggs, roast meat; and he has given the “sirop d'hémoglobine” with excellent results.—*La France Médicale*, 29th May, 1886.

**Purulent Infection Secondary to Pneumonia.**—Prof. Jaccoud has presented to the *Académie des Sciences* a note of two cases proving the development of a purulent infection from acute, sthenic, non-traumatic pneumonia. The evolution is as follows:—An individual in perfect health is seized with an acute pneumonia; the disease presents the characters and runs the course of a typical acute pneumonia, and nothing occurs to indicate that it will be the point of departure for a more serious disease. The crisis occurs in an ordinary way, and the fever terminates. But the febrile defervescence is not followed by complete local repair, there remaining

more or less of the pneumonic lesion without change. After an indefinite stationary period, the patient's condition becomes aggravated, and he succumbs, after having presented undoubted evidence of an infective disease, or he even dies suddenly without any previous aggravation of his condition. At the *post-mortem* there are discovered foci of suppuration in the remains of the pneumonic lesion, and diffuse purulent foci either in the limbs or in the viscera, the suppuration in the lung being the centre from which these have spread. In his cases he found in the pus from the lung foci the pyogenic streptococcus and the staphylococcus, and by inoculation in animals he proved their infective character. The one patient, aged 50, had suppuration in the knee-joint, and died on the thirty-sixth day from the initial rigor of the pneumonia; the other, aged 70, died suddenly on the fiftieth day from the rigor, and abscesses were found in the tissue of the heart.—*La France Médicale*, 4th June, 1886.

**The Masses of Bacilli in the Skin of Leprosy are not Cells.**—In a short article with the above title, Unna replies to Neisser's criticism, and concludes with the following sentence:—"In spite of Neisser's protest the leprosy bacilli always lie free in the tissues of the skin."—*Virchow's Archiv*, vol. ciii, page 553.

**On the Diapedesis of White Blood Corpuscles.**—By Dr. C. A. Pekelharing of Utrecht. This is an important paper which our space forbids us to notice at any length. The investigations it contains were undertaken with the object of endeavouring to settle whether the white blood corpuscles leave the vessels in virtue of their active amoeboid movements, or are passively pressed through the walls. The author shows that opinions on this point are pretty well divided—Cohnheim latterly holding that the amoeboid movement aided little in the process, Von Recklinghausen taking the opposite view. (*Deutsche Chirurgie. Handb. d. allg. Pathol. des Kreislaufs und der Ernährung*, page 225). Lavdowsky (*Virch. Arch.*, Bd. 79, S. 188) and Binz take the same view very emphatically. Binz bases his views that when substances—e. g., quinine, eucalyptus, &c.—which paralyse white blood corpuscles are used in the experiment the emigration ceases. The author repeats these experiments in reference both to the emigration of leucocytes and the transfusion of fluids, and in general he agrees with Binz's results.—(*Virchow's Archives*, vol. civ, page 242.)

**Experimental Researches on Thrombosis.**—A series of very important papers on this very interesting subject have recently appeared in *Virchow's Archives* by Professor J. C. Eberth and C. Schimmelbusch in Halle. In their first paper they showed, by direct observation on dogs, rabbits, and guinea-pigs, that the views of Zahn as to the mode of formation of a thrombus in a vessel must be modified. The little clump which Zahn observed in the vessel as the first event in the formation of a clot is not a little mass of altered leucocytes, but a clump of blood-plates ("blutplättchen"), and the latter only adhere to the wall, and become sticky. They showed also that the blood-plates owed their origin to certain mechanical conditions in the circulating blood, that in the normal blood stream they keep the centre with the red blood corpuscles, but that when the stream is slowed or eddies are produced in it, they get to the side, where they adhere. They determined, further, that before a clump of blood-plates could form they had to undergo a certain change, which they denominated "viscous metamorphosis." To the preliminary heaping together and "melting" of the blood-plates they apply the term conglutination, and this is succeeded by true coagulation. We cannot continue our account of these interesting experiments further, but may add that the succeeding articles of the communication are entitled—2, The origin of thrombi in the great vessels of warm blooded animals; 3, Conglutination and coagulation; 4, Vascular lesions and thrombosis; 5, Disturbances of the circulation and thrombosis.—(*Virchow's Archives*, vols. ciii and cv, pages 331 and 456.)

Professor Thoma, of Dorpat, has been contributing to *Virchow's Archives* a series of papers on the dependence of thickening of the arterial intima on the mechanical conditions of the circulating blood; and a long series of researches on spina bifida have been communicated by Prof. Von Recklinghausen of Strassburg.

**New Method of Preparing Fehling's Solution.**—M. Schniedeberg uses mannite in place of Rochelle salt in making this solution. It insures stability to the solution. His formula is—Dissolve 34.632 grammes of crystallised copper sulphate in 200 cc. of water; to this solution is added a solution of 15 grammes of very pure mannite in 100 cc. of water and 480 cc. of solution of caustic soda (1.145), and lastly, sufficient water to make 1 litre.—*American Journal of Pharmacy*, January, 1886.—A. K. C.

**Mode of Formation of Tartar and of Salivary Calculi; Considerations on the Production of Calculi in general; Presence of Microbes or their Germs in those Concretions.**—It results from M. Galippe's observations and experiments that the precipitation of the earthy salts of the saliva is due to the micro-organisms it contains. The micro-organisms of the salivary tartar are not accidentally enclosed in that substance. They are the agents causing its formation. These micro-organisms, or their germs, preserve their vitality for many months.

It is known that salivary calculi generally form round some foreign body which has entered the canal of the salivary gland. M. Galippe believes this body to act not as a simple foreign body, but as a parasitifer. Once introduced into the canal the parasites act as they do in the mouth. He always finds some parasites in salivary calculi in the form of spores, and they are easily isolated and cultivated. Holding these views as to the formation of salivary calculi, he was led to investigate biliary and urinary calculi, and he has found in them also parasites which he believes to be the cause of their formation. Their mode of action he believes to be a chemical one, causing decomposition, or precipitation of substances normally held in solution in the fluids of the body.—*La France Médicale*, 25th March, 1886.

**Brown-Séquard on Pulmonary Emphysema.**—This author has already shown that the contractility of the bronchi called into play by carbonic acid is the great cause of the dyspnoea which ensues on section of the two vagus nerves. From numerous experiments he has also recognised that in nervous asthma, as well as in lesions at the base of the brain, emphysema is mainly due to an irritation of the vagus nerve, causing contraction of the small bronchi. He has recently ascertained that the contraction of the small bronchi may be sufficiently powerful to drive the air into the terminal vesicles and burst them. He obtains the contraction of the small bronchi on injecting a solution of sulphate of soda into the pulmonary artery a few minutes after death. Pulmonary emphysema occurring in the course of cerebral lesions, and in nervous asthma, is, according to him, due in part at least to a spasm of the muscular fibres of the bronchioles, driving the air towards the termination of these small tubes. (*Compt. rend. de la Société de Biologie*, 6th June, 1885).—*Rev. des Sciences Médicales*, January, 1886.

**Hay Fever and Its Treatment by Cocaine.**—Dr. Bishop, of Chicago, looks upon hay fever as a neurosis, and prefers to term it nervous catarrh. The conditions on which it depends are—(1) abnormally sensitive nerve centres; (2) a hyperæsthetic condition of the peripheral extremities of the nerves, not confined to those terminating in mucous membranes; and (3) the presence of one of a vast number of irritants. He believes it to be an error to suppose that this affection is limited to any particular season. The treatment must be preventive and palliative, as no curative treatment has yet been discovered. In his experience quinine (internally) has given more relief than any other remedy; but recently he has largely used cocaine locally, and with very satisfactory results for the time being. He prefers to apply it by a small insufflator in the form of a six per cent powder of cocaine and sugar of milk, which rapidly relieves the distressing paroxysm for the time. Dr. Bishop insists on the poisonous nature of cocaine in large doses, and even sometimes in ordinary doses the after effects are such that temporary relief is bought at too high a price. The primary effect on the mucous membrane of the nose is, no doubt, anæsthesia and anæmia; but sometimes there are, as secondary effects, great swelling and hyperæsthesia of the parts treated, to such an extent as actually to occlude the nasal passages. In speaking of its physiological effects, he does not clearly indicate whether he speaks from his personal knowledge; but he insists strongly on cocaine being a powerful poison, affecting the nervous, respiratory, circulatory, and vaso-motor systems, simulating opium poisoning, for which it has been mistaken.

—*Journ. Amer. Med. Assoc.*, 6th February, 1886.—A. K. C.

**Percussion of the Oesophagus in Cases of Stricture.**—When there is air in the oesophagus above a stricture of that canal, or when the patient is made to drink a fluid from which carbonic acid gas is evolved, Dr. Feletti has always found an unusual tympanitic sound on percussing the sternum. He has observed this sign in nine cases of pronounced stricture. The lower the seat of the stricture, the farther down the sternum did this tympanitic note descend, disappearing only when the gas was pumped out, or when it had been replaced by some solid or liquid.—*Rivista Clinica di Bologna.—Revue Internationale des Sciences Médicales*, 31st January, 1886.

*Books, Pamphlets, &c., Received.*

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Subjective Symptoms in Eye Diseases. By George A. Berry, M.B. Edinburgh: Oliver & Boyd. 1886.

The Transactions of the Medico-Chirurgical Society of Edinburgh, Session 1885-86. Edinburgh: Oliver & Boyd. 1886.

Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. VII. Washington: Government Printing Office. 1886.

Transactions of the Glasgow Pathological and Clinical Society. Vol. II. Sessions 1884-85 and 1885-86. Edited by David Newman, M.D., and J. Lindsay Steven, M.D. Glasgow: Alex. Macdougall. 1886.

Lehrbuch der Krankheiten des Rückenmarks und Gehirns. Von Dr. Ad. Seeligmüller. Erste Abtheilung, mit 76 Abbildungen. Braunschweig: Friedrich Wreden. 1886.

Handbuch der Physikalischen Untersuchungsmethoden innerer Krankheiten. Von. Dr. Herrmann Eichhorst. Band I, II. Zweite Auflage, mit 145 Abbildungen. Braunschweig: Friedrich Wreden. 1886.

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Transactions of the American Surgical Association. Vol. IV. Edited by J. Ewing Mears, M.D. Philadelphia. 1886.

Diseases of the Joints. By Howard Marsh, F.R.C.S. With 64 Illustrations and a Coloured Plate. Cassell & Co. 1886.

The Treatment of Some of the Forms of Valvular Disease of the Heart, being the Lettsomian Lectures for 1883. By Arthur Ernest Samson, M.D. Second Edition. London: J. & A. Churchill. 1886.

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The Healing Art; or, Chapters upon Medicine, Diseases, Remedies, and Physicians. In Two Volumes. London: Ward & Downey. 1887.

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The Vital Statistics of the City of Glasgow. By James B. Russell, M.D., LL.D. Part III. The Six Years 1880-85; with Retrospect of Fifteen Years, 1871-85. Glasgow: 1886.

Gout and its relation to Diseases of the Liver and Kidneys. By Robson Roose, M.D. Third Edition. London: H. K. Lewis. 1887.

On Fevers: their History, Etiology, Diagnosis, Prognosis, and Treatment. By Alex. Collie, M.D. With Coloured Plates. London: H. K. Lewis. 1887.

The Diagnosis and Treatment of Diseases of the Kidney amenable to Direct Surgical Interference. By W. Bruce Clarke, M.A., M.B. With Illustrations. London: H. K. Lewis. 1886.

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On Irritable Brain in Children. By W. H. Day, M.D. London: Baillière, Tindall & Cox. 1886.

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Transactions of the Academy of Medicine in Ireland. Vol. IV. Edited by William Thomson, M.A., F.R.C.S. Dublin: Fannin & Co. 1886.

The Retrospect of Medicine. Edited by James Braithwaite, M.D. Vol. XCIV. July to December, 1886. London: Simpkin Marshall & Co. 1887.

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ORIGINAL ARTICLES.

LECTURES ON THE DISEASES CLASSIFIED AS  
TABES MESENTERICA.

By W. T. GAIRDNER, M.D., LL.D.,  
Professor of Medicine in the University of Glasgow.\*

LECTURE I.—HISTORICAL.

THE subject of the present lectures was suggested to me as following naturally out of a series partially published in the *Medical Times and Gazette* in 1884 and 1885, but arrested *in medio* by the extinction of that journal in December, 1885. The connection of that course with the present may not appear quite clear when I state that it was mainly devoted to the consideration of peritonitis in its various aspects; but I hope to show, in the course of the present lectures, that the

\* This formed one section of a Course of Lectures to Practitioners, held in the Western Infirmary, in October, 1886. The object of the Lectures was thus briefly defined in the Syllabus:—"Dr. Gairdner proposes to remark on the clinical significance and history of the group of diseases which have come to be classified in the Registrar-General's returns as 'Tabes Mesenterica,' and to show the misleading character of this designation; the true pathological features of the diseases in question; the diagnosis as founded on physical signs and on the symptoms; the prognosis and the treatment, as modified by experience based on the above considerations." Dr. Coats followed, with four Lectures and Demonstrations on Phthisis Pulmonalis, embracing "most of the questions which recent researches have brought to the front" as bearing on the pathology and etiology of phthisis, "in view of the discovery of the tubercular bacillus."

whole subject of peritonitis is inextricably involved in the symptomatology and pathology of *tabes mesenterica*.

The idea of *tabes mesenterica*, as adopted by the Registrar-General and many of the English authorities, may possibly be set before you with sufficient accuracy in the following extract from the well known book of Sir Thomas Watson, 5th ed., vol. i, p. 216 :—

“One form of scrofulous disease, common among children, is what is called ‘*tabes mesenterica*.’ *Tabes* and *phthisis*—the one a Latin and the other a Greek word—signify, I need scarcely tell you, the same thing: a wasting away, or a consuming; and *phthisis* is applied to the same disease in the chest to which *tabes* is applied in the belly. The common English word is *consumption*, and we might very well speak of *thoracic consumption* and of *abdominal consumption*; but the technical name of the latter complaint is *tabes mesenterica*. This is not only a common but a very fatal disease in children and young persons. The glands of the mesentery enlarge, and become charged with tubercular matter, but they very rarely suppurate. Their enlargement is commonly connected with tubercular disease and ulceration of the mucous follicles of the intestines, and the little patients die because the lacteals are no longer able to take up from the food a sufficient supply of nutriment: they die starved. But some few do recover from *tabes mesenterica*.”

Sir Thomas Watson then proceeds to show from Carswell what is now, I suppose, familiar to every pathologist of experience—that scrofulous glands, the mesenteric among the rest, undergo a kind of cure through the arrest of all active morbid processes in them, and the deposit of saline and earthy particles in the cheesy-looking masses which constitute the so-called scrofulous—or, as some hold, tuberculous—matter of the earlier stages of the disease. I am not going to occupy you much with strictly pathological dissertations in the lectures assigned to me in this course, and accordingly I will assume that you are all more or less familiar with the great controversies that have arisen, especially in Germany, within the last thirty years, as to the relation of this process of *caseation*, in the glands and elsewhere, to tubercle properly so-called; involving, of course, the question, long debated by pathologists before the days of microscopic investigation, as to the identity, or otherwise, of the scrofulous and the tubercular constitution. This subject, in almost all its aspects, was elaborately considered a few years ago by our Pathological and Clinical Society, and the discussions upon it, which were spoken of at the time as fairly

representative of the state of scientific medical opinion, are open to your perusal.\* I think, moreover, that it is probable that Dr. Coats may have something to say upon it further in his contribution to the present courses of lectures, and accordingly I shall content myself with a brief allusion to it, and with directing your attention to these illustrative preparations. [The preparations shown illustrated various stages and forms of chronic disease of the mesenteric glands and of the peritoneum, in combination and separately, with caseation, and, in one case, complete calcification of a considerable group of glands in the mesentery, without any known clinical history.]

It will be observed that the point of the extract given above from Sir Thomas Watson lies in the statement made (as if one of unquestionable fact) that "the little patients die because the lacteals are no longer able to take up from the food a sufficient supply of nutriment: they die starved." And there can be little doubt, I think, that this was the idea underlying the name, and giving, as it were, its importance and specific character to this as the designation of a particular form of scrofulous or tubercular disease. We find, indeed, that under the slightly varying designations of *tabes* or *atrophia* or *phthisis mesenterica*, this form of disease is recognised more or less in many of the systematic works which appeared towards the end of the eighteenth century; and yet it would hardly be correct to say that these designations were at any time universally recognised as those of a special form of disease. I have hitherto been altogether baffled in attempting to trace back the idea indicated by Sir Thomas Watson (of mechanical starvation through the interruption to the flow of the chyle) to its original source. The nosology of Sauvages gives Baglivi as the authority for the original employment of the name *tubes mesenterica* in the sense in which it has been habitually used; but, upon reference to the works of that somewhat desultory writer, I have failed to find any clear indication of the pathology in question; and although it must, of course, from its very nature, have arisen out of the great discoveries of the seventeenth century in regard to the lacteal and lymphatic circulation, I have hitherto not been able to discover any work earlier than 1750 in which that pathology is so much as alluded to. This date, moreover, is provisionally adopted, not as that of any very precise reference, but as the

\* *Discussion on the Pathology of Phthisis Pulmonalis and its relationship to Tuberculosis.* Glasgow, 1881. (Also in *Glasgow Medical Journal* of same date.)

dividing line between the first and second half of the century. In two inaugural dissertations, published, one in Edinburgh, by Gul. Ball, in 1773, and the other in Glasgow, by A. Crawford, in 1774, *De Tabe Mesentericæ*, I find references to Juncker, Hoffmann, Stahl, Sennert, Sauvages, and to the now almost forgotten, but then probably well-known, work of Richard Russell, *De Tabe Glandulari; sive de usu aquæ marinæ in morbis glandularum dissertatio.* Oxon, 1750. The Edinburgh thesist adds, however, in reference to the whole previous literature of tabes mesenterica, that in all these works the disease in question is very slightly treated (per pauca quidem perleguntur); and, further, that "Nulli attamen inter systematicos ex professo eundem tractaverunt. Boerhaavius, ejusque commentator Van Swieten celeberrimi, nihil quidem de eo in medium protulerunt." The works of Baglivi are, in more than one place, occupied with discussions of what he calls mesenteric fevers; but it seems more probable, on the whole, that in these chapters he had in view something of the nature of typhoid fever rather than the chronic mesenteric disease of infants and children. Indeed, I am not quite sure if Cullen—who, in his nosology, gives by no means a prominent place to tabes mesenterica—was not among the first authoritatively to set forth the theory in question. In tabes mesenterica, he says, "the emaciation depends on an obstruction of the mesenteric glands, through which the chyle must necessarily pass to the thoracic duct."\* In the excellent article on tabes mesenterica, written by Dr. W. B. Joy for Forbes & Tweedie's *Cyclopaedia* in 1835, this theory is fully discussed; and, without being absolutely refuted, it may be said to have been set aside as inadequate, on the ground that such obstruction as would necessarily lead to the consequence referred to is quite unusual, if not unexampled. In the course of the discussion there is introduced a remarkable statement by Cruikshank, whose work on the lymphatic system was perhaps the most complete and advanced piece of anatomical research on the subject in the end of the eighteenth century (1790), to the effect that "in such enlargement of the glands, if it ever takes place, we should meet with the stagnation of the chyle in the first set of lacteals, yet I never saw such stagnation on any occasion whatever." The sceptical position indicated in this quotation is evidently shared by Dr. Joy, who adopts the opinion, then as now all but universally held, of the tubercular character of the disease in the glands, and argues that it is to the consti-

\* Thomson's edition of Cullen, vol. ii, p. 562.

tutional symptoms associated with tubercular disease, wherever occurring, that we have to look for an explanation of the hectic fever and the emaciation attending the so-called *tabes mesenterica*. Indeed, it is rather remarkable that this scepticism appears to extend almost to the point of refusing to admit that emaciation would necessarily be the consequence of any amount of disease in these glands, or even that such disease would necessarily be followed by any symptoms whatever. The following paragraph includes statements which have been frequently quoted, and therefore perhaps demand to be mentioned here.

"Morgagni has mentioned the case of a negro cut off suddenly" (he was hanged, according to Ingrassias, the original source of the story) "in whom the mesenteric glands were found greatly enlarged and scrofulous, though he was, almost up to the moment of his death, in the enjoyment of excellent health; and Bayle records the case of a child which was burned to death while in perfect health, being fat and in good condition, though tubercles existed in the mesentery, and in some of them suppuration was actually commencing. There are probably few practitioners who have enjoyed extensive opportunities of the prosecution of pathological anatomy who cannot recall instances of young patients cut off rapidly by acute diseases in whom enlargement of these glands, which had been altogether unsuspected during life, existed." M. Guersent, in a well known and admirable article presently to be mentioned, carries this sceptical argument a little further still: for, after alluding to Morgagni's case (which he attributes to Ingrassias in the first instance) and to that of Bayle, in more detail than Dr. Joy, he gives it as his own personal experience that both pulmonary and mesenteric tubercles, if not inflamed, may not only exist, but "may arrive at the last stage of softening without notably disturbing the health, and without manifesting themselves by any pain, or by any sign that can be remarked. The persons affected by them retain their appetite and their flesh (*embonpoint*), and this fact is important to be known also in its relations to physiology and pathology, for it proves that the mesenteric glands are not the only way by which the chyle can pass into the blood, and confirms, indirectly, the absorption by the veins, which is, moreover, proved (*constatée*) both by experiments and positive observations." (*Dict. de Médecine*, t. iv, p. 318.)

It is rather remarkable that, notwithstanding this scepticism as regards the theory of mesenteric glandular tabes, the name should have survived, in association with the theory, so long

as to be thus imbedded in the classical work of Sir Thomas Watson up to its latest edition; and this, notwithstanding the fact that neither in France nor in Germany, nor yet in Italy, where the theory might reasonably be supposed to have taken its origin, has the name *tabes mesenterica* been nearly so popular among nosologists as in this country, where its adoption by the Registrar-General, as the designation of an important division of the tubercular or scrofulous diseases, has no doubt tended to its undue perpetuation. "Scrofula," writes Dr. Farr, "characterised by the deposit of a matter allied to, if not identical with, the tuberculous matter of phthisis, so frequently affects the lymphatic glands, that their chronic enlargement or inflammation (adenitis) is almost always considered scrofulous; the deposit of tuberculous matter in the mesenteric glands has a name (*tabes mesenterica*), as it is frequent in children." (Farr's *Vital Statistics, Memorial vol.*, 1885, page 238.) And this name accordingly has been in England, Scotland, and Ireland, ever since adopted as the only comprehensive designation of the tuberculous or scrofulous diseases of early age affecting the abdomen. It may be added that, according to an investigation by Dr. Greenhow, made at the instance of the Medical Officer of the General Board of Health, in 1858, the prevalence of *tabes mesenterica* as a cause of death in England and Wales was found to be, for males, equivalent to a death-rate per 100,000 of 28, and for females, of 24; while in London the corresponding death-rates for males were 44, and for females, 33 per 100,000. The variations in this rate, according to districts, &c., were minutely criticised in this report without any indication that the name itself was regarded as an unsatisfactory one; indeed, it is contrasted, page 110, with the somewhat vague term *scrofula*, as "the well defined form of disease called *tabes mesenterica*."

From an early period of my pathological experience my attention was necessarily directed more or less to this subject, although not, perhaps, with the direct object of accumulating facts with reference to the theory above mentioned. Had my mind, indeed, been predisposed to partisanship, I should have found it difficult to place myself on the side either of the upholders of the theory or the sceptics; for, on the one hand, it soon became apparent to me that the mesenteric glandular disease was by no means the exclusive or even the chief pathological element in the symptoms commonly attributed to it; and, on the other hand, it would have been difficult to maintain, in presence of facts which came under my know-

ledge from time to time, that such disease of the glands as amounted to distinct obstruction was not capable, in the event of its being very extended, of producing the mechanical results above adverted to. Even the curious negative fact, apparently maintained by Cruikshank, as to the absence of stagnation of the chyle in the first set of lacteals, did not wholly accord with my experience; and I am able to show you here a preparation in which such partial damming up of the chyle, as a consequence of disease of the mesenteric glands in the direct course of the corresponding lacteals, appears to have taken place. But, on the other hand, it may be admitted that such appearances were entirely exceptional, and always partially distributed, so that it could hardly be supposed that the mechanical theory, however supported in principle by these examples, was, in fact, the chief or ruling element in the disease *tabes mesenterica*.

What, however, appeared to me still more important, as a jointly clinical and pathological observation, or rather as a pathological observation involving important clinical consequences, was that as a cause of abdominal intumescence in young subjects, recognisable by diagnosis, it very rarely indeed happened that mesenteric disease of any kind existed without complications such as would have made it entirely impossible during life, and barely possible after death, to assign to the mesenteric glands any separate share in the symptomatology of the disease. Mesenteric glandular disease, when leading up to death, was invariably complicated with disease either of the mucous or of the serous surfaces, to such an extent as to make it extremely probable that the mesenteric tumours were of quite secondary importance both in the diagnosis and in reference to the theory of the case. "*Tabes mesenterica*," in short (considered in the natural signification of the words), may be said to have practically disappeared from observation altogether as an independent disease, to be replaced by other and much more complex conditions, among which tubercular peritonitis on the one hand, and tubercular ulceration of the mucous membrane on the other, were the chief and enormously preponderating factors entering into the diagnosis. Without having formulated any distinct conclusions on the subject, I had, during a course of nearly twenty years, been watching my available experience in hospital and otherwise (not specially children, however), when in the early part of 1867 a case was admitted to the Royal Infirmary of Glasgow which, throughout four months of treatment, was very carefully watched, and in the end

terminated fatally; the *post-mortem* examination showing what was at once recognised as a quite solitary and exceptional fact in my experience up to that time—viz., a considerable and general enlargement, and a state of disorganisation of the mesenteric glands which might have fully entitled the case to the name of *tabes mesenterica* in the most precise sense of the word. This case, however, was not that of a child, and, whatever its pathology, it was not a tubercular case. Indeed, it presented not the slightest resemblance or even analogy to any of the cases I had been accustomed to observe as corresponding with the descriptions of *tabes mesenterica* in the child. There had been no evidence of disease of the lungs, and the abdominal affections were both accompanied and preceded by *anasarca*, so that the physiognomy of the case was that of Bright's disease rather than that of tubercle, and it was even with some surprise that I found the urine to be non-albuminous. The particulars of this case are recorded in the *Glasgow Medical Journal* for May, 1867, page 71, and it may perhaps be sufficient to state here that after two months of treatment "some indications of peritoneal effusion" were recognised, "but, if so, moderate in amount." Diarrhoea and vomiting had also begun to be troublesome, the dropsical swellings continuing as before. Some weeks later "obscure indications of tumour" were recognised, "which, when the swelling was considerable, could only be felt by careful and deep manipulation." The examination of these tumours on various occasions, between 29th April and 8th May, led to the probable diagnosis of their being mesenteric. They were found to be "of varying distinctness—sometimes nearly superficial, sometimes overlapped by intestines; not capable of being identified with any of the greater viscera, to a certain extent mobile, and chiefly felt in left umbilical region, very dense, hard, irregular, and somewhat nodulated, altogether having much of the position and some of the characters of mesenteric glandular tumours."

I must here remark that these latter words were inscribed in the report made at the bedside during the lifetime of the patient, with the full belief that the case was an anomalous, or at least a very unusual one, and with all the reserves imposed by my own consciousness of unfamiliarity with mesenteric glandular disease recognisable distinctly as such. A few words from the details of the *post-mortem* examination will serve to indicate the special characteristics of this case, it being premised that the heart, lungs, liver, spleen, kidneys, and supra-renal capsules may be dismissed as, in general

terms, practically normal:—"Mesenteric glands more or less enlarged from duodenum to ileum and from centre to circumference; individual glands perfectly separate, varying from normal size to that of a small walnut. The mass of glandular tumours singularly hard and inelastic, giving to the mesentery and attachment of small intestine throughout a dense thickened feel. On section, individual glands solid throughout; no trace of active suppuration; but at points a yellowish infiltrated matter, apparently supplanting and altering the glandular structure; section of glands for the most part presenting distinct hypertrophy of normal elements, with very marked variegated congestion. Intestines: Mucous membrane throughout thickened, dense, irregularly congested, the villous element highly developed, the *valvuli conniventes* well marked and continued low down in ileum; copious white mucus everywhere on surface, and towards the ileo-caecal valve slaty discolouration and a few very superficial erosions. Peyer's glands can hardly be made out, and seem to be nearly lost in thickened mucous membrane. Omenta normal. No trace of special disease of the peritoneal coat, with the exception of some very old adhesions of the liver to the diaphragm." Microscopic examination failed in this case to identify the structure of the diseased mesenteric glands as either tubercle or cancer, and the state of the other organs afforded no support to either theory. Emaciation had latterly become extreme, but was apparently accounted for by the diarrhoea and vomiting. There was no hectic fever of any importance, but abdominal pain had been present to a considerable extent. The patient was a carter, aged 21, who attributed his disease to cold and exposure, he having been previously of robust conformation. The case was, in my mind at the time, absolutely distinct from anything that I had previously observed as tabes or tubercular mesenteric disease; and accordingly I recorded it as being "quite unique within my experience;" adding that "though *tabes mesenterica* is a very common name, and stands for a considerable figure in the Registrar-General's returns, very few instances really occur of primary disease of the mesenteric glands. Rilliet and Barthez affirm they have never witnessed such a case, and most of the good authorities admit the extreme rarity of this condition. Bamberger, in *Virchow's Handbook*, alludes to one case only in his experience, in which (in a woman aged 60) the disease was mistaken for cancer of the stomach. The facts here recorded, therefore, deserve attention, apart from any special question of pathology or of diagnosis which might be founded upon them."

Although I am unwilling to burden your memories with a superfluity of detailed cases not actually presentable before you, this one, I think, from the point of view in which I have presented it, cannot but be interesting to you; the more so, perhaps, as I am able to connect it with another, of much later occurrence, in which an apparently closely corresponding diagnosis was *not* borne out by the *post-mortem* examination. The success of the diagnosis in the one case, and its failure in the other, as regards the verification of the seat of disease, are of equal importance with respect to some parts of the argument about to follow, as showing the real insecurity of some of the physical signs that have usually been set forth as those of mesenteric glandular disease. This case occurred in the Western Infirmary, and is here given in brief abstract from the Journal X (Ward 6), p. 10, September to December, 1884. It was one of unequivocally malignant or cancerous disease of the peritoneum, in which paracentesis was performed about two months before death, thus giving the opportunity for careful examination in the comparative absence of fluid effusion:—

Catherine F., æt. 52, admitted 18th September, 1884. It seems unnecessary for the present purpose to adduce details up to the date of the paracentesis on 7th October; the patient had been aware since the end of July of a swelling of the abdomen rapidly increasing, and evidently ascitic, followed about a month afterwards by cedematous swelling of the lower limbs. She had been conscious of no other definite complaint; and as far as could be discovered from her statements, the solid tumours which afterwards became apparent had been wholly unknown to her previously to her admission. On the day before the paracentesis, Dr. Gairdner detected, on palpation of the abdomen, a solid resistance deep in the umbilical region, which, amid the obscurities in diagnosis caused by the fluid, appeared to be rather connected with the mesentery than with any more superficial part, and was so reported accordingly. After 149 ounces of fluid had been drawn off, the examination was renewed with the result of detecting an extremely irregular mass of tumours which, by their mobility among themselves, suggested an aggregation of greatly enlarged glands, rather than any more continuous solid texture. This mass was completely disengaged from the liver, spleen, and right kidney, but it appeared to receive impact from the left lumbar region, and consequently its possible connection with the left kidney was reserved as a doubtful question. It is also indicated in a report soon afterwards that the question of a group of uterine fibroids had momentarily occupied attention,

but had been dismissed owing to the absence of any evidence whatever of a connection of the tumour with the pelvis. To the end of the case a considerable amount of fluid continued present in the peritoneal cavity, and it appeared as if the relations of the solid tumours to this fluid were more in favour than otherwise of the theory of mesenteric glandular disease. But, before the patient died, other tumours or thickenings were detected corresponding apparently with the parietal peritoneum, both above the umbilicus, and in the hypogastric region. In connection with this it is particularly recorded that "the region proper to the omentum does not present any of this thickening, unless, indeed, the omentum can be conceived of as displaced or shrivelled up entirely into the epigastric region." The definite character of this report, made shortly before the patient's death, as bearing on the diagnosis of omental tumours, is remarkable, inasmuch as the omentum was actually found to be the chief seat of the thickening referred to, which, however, from its having underlain the fluid accumulation, and from its being extremely mobile as regards its individual parts, continued to present to the hand more the character of a mesenteric tumour than of omental disease. It will be observed, also, in the record of the *post-mortem* examination, that even had this source of fallacy not been present, it is probable that a diagnosis of mesenteric glandular disease could scarcely have been avoided, inasmuch as the mesenteric sub-peritoneal tissue (but not the glands) was the seat of tumours which no amount of skill or *finesse* in diagnosis during life could possibly have distinguished from glandular enlargements, while the case presented in a high degree the characters of progressive and extreme emaciation usually associated with the idea of mesenteric tabes. The patient died on 10th December, in the last stage of emaciation, but without any complications indicating visceral disease. The *post-mortem* examination revealed the following facts:—

"The abdomen somewhat distended, but not very tense; a firm nodulated mass is felt floating across it in the position of the great omentum. The left pleural cavity is distended with serum, and the corresponding lung quite collapsed. The right pleural cavity contains about a pint of fluid. No cancerous nodules in the pleura. On opening the abdomen a massive pale tumour is at once exposed, while a large quantity of straw-coloured fluid escapes." [It may be remarked that the fluid withdrawn during life had been carefully and microscopically examined, but no distinctive elements, either

of cancer or of tubercle, had been discovered; it was in all respects like an ordinary ascitic or serous effusion.] The connections of this tumour were briefly as follows:—It consisted mainly of the great omentum, "which is composed of a congeries of rounded tumours agglomerated together and compacted, the individual tumours being from the size of a hazel nut to a walnut. The omentum is thus converted into a solid dense mass measuring 14 inches transversely, 3½ inches from above downwards, and 2 inches in thickness. The mass entirely covers the transverse colon, which is found behind it. It also involves the anterior wall of the stomach, which is here in one or two places continuous with the omental mass. There is also a great tumour formation in the lesser omentum. The under surface of the diaphragm is almost continuously the seat of rounded tumours. The (peritoneal) wall of the abdomen contains many tumours; there are some in the epigastric and hypochondriac regions; but there are much more massive ones just above the brim of the pelvis on either side anteriorly. These are continuous with tumour masses inside the pelvis. The entire pelvic peritoneum is occupied by such closely agglomerated tumours, imbedding the uterus and rectum, but leaving them otherwise intact. The mesentery of the small intestine shows large numbers of rounded tumours, often almost pedunculated and like small marbles. They are most abundant over the mesenteric attachment of the intestine, and partly overlap the intestine in some cases. A few are on the peritoneal surface of the intestine. The caput cæcum coli is surrounded and partly buried in tumours. The descending colon has also large numbers surrounding it. *There is no enlargement of the mesenteric or prevertebral glands.*" [Further particulars of considerable interest pathologically will be found in Dr. Coats' report, No. 1,269, Path. Register of the Western Infirmary, vol. vii; but these are all that have a direct clinical bearing on the present subject. Preparations illustrating the case are preserved in the Museum of the Western Infirmary.]

This case I present to you in abstract, not merely as an illustration of an error in diagnosis under circumstances where the complexity of the details makes such an error perhaps an excusable one, but also because I shall have to insist, by and by, upon the characters of a thickened omentum as one of the most significant *notes*, as it were, of the variety of chronic peritonitis which enters into the description of the so-called *tabes mesenterica*. It is, however, in certain rather rare cancerous cases that the characters of omental disease may be

most easily studied; and one such case, as it happens, is at present under observation in my male ward, and will be introduced to you after this lecture. [This patient had been tapped more than once for ascites, associated with great pain in the upper half of the abdomen; and after the second tapping a superficial thickening was discovered lying athwart the abdomen in the upper umbilical and hypochondriac regions, probably separate from the liver, and in front of the intestines. For some weeks after this lecture, this patient was extremely ill, and was considered not likely to recover; he made, however, at least a partial and very considerable progress afterwards, and was dismissed with the tumour still quite apparent, but almost free from severe suffering of any kind.]

In France, the popular name of the so-called *tabes mesenterica* is *Carreau*, a name of rather obscure origin, but seeming to have some reference to the hard and cushion-like prominence of the abdomen. This name, of course, carries no theory whatever as to the nature of the disease, and even its association with mesenteric disorder seems to have been greatly overlooked, and its scientific character scarcely studied, up to the time of the prize essay of Jean Baptiste Timothée Baumes, of Nismes (afterwards Professor of Pathology and of Nosology, and of Clinical Medicine in the University of Montpellier), submitted to the Faculty of Medicine, Paris, 1787, and published with their approbation in 1788. A second edition of this work was published in 1806, and it has ever since been a standard authority. It is worthy of remark, however, that in the question proposed by the Faculty of Medicine for this prize the origin of the disease in the mesentery is assumed, the proposal being in these words:—“Décrire la maladie du mésentère, propre aux enfans, que l'on nomme vulgairement *carreau*, l'envisager dès son principe, rechercher les causes qui la produisent, et exposer avec précision les moyens de la prévenir et ceux de la guérir.” It is clear, therefore, that although the name “*tabes mesenterica*” is not used in this reference, or much, indeed, in the work itself, the theory of a primary mesenteric lesion as the starting point of the disease had been entertained in France, and was adopted as the basis of Monsieur Baumes’ researches; the loss of flesh (*amaigrissement*) of the children and the inflation and hardness of the abdomen being directly attributed to this. “Young children,” he says, “are very subject to emaciation succeeded by atrophy, at the same time that they take on a cachectic habit, and the abdomen becomes inflated and dense, afterwards indurated, and almost

always painlessly. This disease has been as badly named as it has been ill described. It is certain that it has its seat in the mesentery, and taking into consideration the tumefaction and resistance (rénitence) of the abdomen, some have given to this affection the vulgar and metaphorical name of *carreau*; others, looking only to the principal *effects of the obstruction in the course of the chyle across the mesentery*, have named it atrophy of infants." Tulpus, Sydenham, and Lieutaud, with a number of minor authorities, are referred to, but none of them, apparently, so as very directly to bear out the theory.\* From all this, as from the whole substance of the work, it is quite clear that M. Baumes was insensibly biassed to a great degree by the obstruction-theory above alluded to. The well-known and classical article of M. Guersent in the *Dictionnaire de Médecine*, 1822, t. iv, art. *Carreau*, proceeds on very much the same lines, although upon a much wider basis of observation; and it is remarkable that while fully acknowledging that he is not acquainted with a single case in which a child had died from an affection of the mesentery alone, and that in all the fatal cases he has observed it was combined with other diseases capable in themselves of producing this result, he has, nevertheless, insisted, more than perhaps any other of his countrymen, at once on the difficulty of the physical diagnosis, and upon the manual examination and discovery of the diseased glands as the only mode of distinguishing the mesenteric from the associated diseases. Upon this point I shall have a good deal to say in the sequel.

M. Bichat, certainly the greatest of French pathologists at the beginning of the century, in a course of lectures sketched out and probably written in 1805, expresses himself in the following terms of almost epigrammatic conciseness:—"The *carreau* is the engorgement of the glands of the abdomen. It comes on commonly in infants from the second to the eighth year. It declares itself at first by pains, disturbed digestion, frequently habitual diarrhoea, the belly is distended, there are frequently vomitings, . . . there is a delicacy of the skin, flaccidity, puffiness, heightened colour of the mucous membranes, small pulse, frequently difficulty of breathing, lactescent urine, . . . debility, feebleness in the movements, little development of the intellectual faculties. The

\* Sydenham, however, is perhaps entitled to the credit of the first hint incidentally given of a connection between tabes, especially in infants, and abdominal tumours of strumous character connected with the mesentery. The passage will be found in his *Dissertatio Epistolaris, de Affectione Hysterica*, 1685. Section 99.

tension of the abdomen is due to the swelling of the glands and to gaseous matters. When these gases do not exist, it is possible to feel the swollen glands, but this is the most rare case. Sometimes there is voracious appetite, at other times anorexia, abdominal pain, complication with worms. The general symptoms are the disturbed respiration which arises, no doubt, from the consecutive enlargement of the thoracic glands, the marasmus, which some authors have given as a characteristic sign. One might suppose at first that this (the marasmus) depends upon the *non-absorption of the chyle on account of the engorgement of the glands*; but it is only towards the latter periods that this function is absolutely interrupted; and no one need be surprised at this who knows how the lung, in the later stages of phthisis, can equally fulfil its functions. At last the strength diminishes, the tumefaction of the belly is enormous, pain is excessive, and shifts its position *according as the mesentery is displaced by the movements of the patient*, diarrhoea is habitual, there is weakness and concentration of the pulse. Towards the close ascites, or infiltration of the lower limbs, supervenes. There is no disease which reduces infants to a more frightful state of marasmus." This clinical picture, the brevity and comprehensiveness of which lead me to quote it almost entire, is accompanied by a description of the various stages of enlargement and degeneration of the glands, which is, however, the less interesting to us that it has been entirely superseded by later and more exact descriptions. The association of glandular affections of the abdomen with a similar disease in the thorax is spoken of, but no hint is given of the other complications described by M. Guersent. The name "tabes mesenterica" does not occur.

Returning to the article of M. Guersent on the *carreau*, which he at once identifies at the outset with *tabes mesenterica*, he speaks of it as a vulgar name, metaphorically assigned to the tuberculous affection of the glands of the mesentery, *on account of the hardness and the volume which the belly frequently acquires during this disease*. He remarks upon other designations and particularly on the name *entéro-mésentérite* (evidently a Broussaisism), which he rejects as being wholly inapplicable, inasmuch as M. Petit (in 1813) had already employed that name to represent a disease (typhoid fever) having no resemblance to the one in question. He proceeds to say that the *carreau* is not peculiar to infancy, inasmuch as mesenteric tubercles are found at all ages up to 50 or 60 years and more; and further, that even among infants it is

by no means so common as has been represented. The anatomical description of the changes in the mesenteric glands is given in great detail, and its association with diseases of the mucous membrane is pointed out; this being peculiarly apt to be diseased toward the end of the small intestine. Extensive ulcerations, he says, are observed in more than half the individuals affected with this disease, but yet the connection is not essential. "The intestinal mucous membrane is often perfectly healthy in the whole extent of the canal, even although mesenteric tumours are very voluminous, and already in part softened. On the other hand, ulcerations of the mucous membrane are frequently found in phthisical persons, although the mesenteric glands are often unaffected." M. Guersent also remarks, that next to the inflammation of the mucous membrane and the intestinal ulcers, the most frequent organic alterations occurring in *carreau* are the retraction, thickening, and induration of the omenta with tuberculous degeneration, the consequences of the inflammatory affection, and of chronic peritonitis with or without sub-peritoneal tubercles; but all these lesions can only be considered as the result of the complications, more or less frequent, of chronic inflammations of the abdominal organs with the *carreau*. After a very extended description of the symptoms caused by these disorders, M. Guersent ends by the following remarkable admission, which seems of itself sufficient to suggest the doubtful propriety of the name *tubes mesenterica*. "It results," he says, "from this physiological discussion of the *carreau*, that nearly all the symptoms which, up to the present time, have been assigned to this disease do not really belong to it, but depend upon several other affections of the abdomen with which it is ordinarily confounded, or other diseases which accompany it as a rule, and proceed side by side with it. The only pathognomonic symptom, the only positive character by which the *carreau* can be recognised, and this only in its last stage, is the discovery by palpation of the tubercles. All the other symptoms are more or less doubtful, and masked by those of the diseases with which *carreau* is complicated. *Carreau* is, therefore, one of those organic alterations which belong almost exclusively to the domain of pathological anatomy. It forms in the nosography a genus altogether artificial, to which it is impossible for me to assign physiological characters distinct from those of the diseases with which it is almost always found associated, seeing that *I have never met with it in an isolated form.*" It would appear probable that this frank declaration has largely influenced the ideas and nomen-

ciature applied by the profession on the continent of Europe to this affection, inasmuch as the name “*tabes mesenterica*,” although, as we have seen, employed by Guersent himself as the scientific correlative of the popular name *carreau*, has been practically abandoned to a great extent in France, and also in Germany. After the detailed description, in fact, of tubercular peritonitis by Louis, and subsequently by Rilliet and Barthez, it is scarcely possible to point out any definite recognition in French medical literature of *tabes mesenterica* as an appropriate nosological term; all the forms of disease in question being described under the titles of other tuberculous or scrofulous affections, such as tubercular peritonitis and ulcerations of the intestines. In the latest dictionary of the medical sciences published in France (*Dictionnaire Encyclopédique*, edited by Dechambre), the pathology of the mesenteric glands is systematically treated in an article by Ernest Besnier, in which the secondary character of the disease is maintained, and the name “*tabes mesenterica*” does not once occur, nor is it to be found among the titles of the many works cited in the bibliography attached to this article. In Germany, while the name *tabes* continues to be used largely in connection with locomotor ataxia or *tabes dorsalis*, it seems to be entirely abandoned as a designation of mesenteric disease, so far as to be wholly unrecognised in the great *Cyclopaedia of the Practice of Medicine*, edited by Ziemssen, as well as in the still more recent one of Eulenburg.

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## ON INOCULATION FOR SMALL-POX.

By HUGH THOMSON, M.D., GLASGOW.

*(Concluded from page 99.)*

IN Scotland, vaccination not being compulsory until the completion of the sixth month of age, it is not until that period is nearly reached that the great majority of the children are brought to be vaccinated. They are then, in general, well developed, but, from any cause, should they not be so, it is advisable to make a less number of punctures to each insertion—instead of three, two, or only one may be made. If a child is too weakly for that much, it is better to postpone the vaccination, unless, under very exceptional circumstances, when even a single puncture, in all, may suffice to procure temporary immunity.

To obtain good results it is essential to employ good lymph. The choice of vaccinifers is indeed of very great importance, whether as regards the immediate consequences to the vaccinated, or the maintenance of the quality of the stock. Bousquet's maxim—"S'il y a un moyen d'empêcher ou du moins de ralentir la dégénérescence du vaccin, c'est de le prendre toujours sur les plus beaux enfants et dans les plus belles pustules"—is no doubt an excellent one, although it reminds one of the fencing master's lesson to Mons. Jourdain:—"The whole secret of fencing consists but in two things—in giving and not receiving." All that is necessary is to know what constitutes in the vaccinator's eyes, the finest children and the finest vesicles.

What, then, are we to regard as the finest vesicles? They are such as, at the beginning of the eighth day (the day usually chosen for taking lymph, although not always the best), show the punctures made in vaccinating well healed with no scabbing, the vesicles depressed in the centre and elevated at the margin, containing a moderate amount of lymph, not accumulated, that is, flat in proportion to breadth, and not having lost the inequalities—bosses and foveæ—resulting from some of the connections between the epidermis and corium still remaining intact, the areola incipient or only slightly developed. The lymph which exudes from them, on being pricked, is nearly if not quite limpid, somewhat viscid, moderate in quantity, and does not tend to run down the arm.

As a general rule it is the finest children—those, at least, who are such in the eyes of the vaccinator: "children of dark complexion, with a thick, clear, smooth skin," as Seaton remarks—indications of a strong, vigorous constitution—who furnish the finest vesicles. At the same time, care must be taken to see that the child is in perfect health, and especially, by a thorough examination, that it is free of all skin diseases, and more particularly all indications of syphilis, among the most persistent and obvious of which (excepting, of course, manifest syphilides) are chronic coryza, generally from birth; a depressed nose, open fontanelles, hydrocephalic head, turgid veins of scalp, tumid lymphatic glands. Many of the manifestations of syphilis disappear under treatment, and it is possible they may have thus disappeared without the disease being thoroughly eradicated; but it is rare that one or more of the above may not be found if searched for. It is superfluous to caution against the smallest admixture of blood, which is well known to be the chief medium through which

constitutional disease may be conveyed. We would impress upon all who have to treat infantile syphilis the duty of seeing to the vaccination of the child after symptoms have disappeared, lest it should fall into the hands of one to vaccinate it, who—knowing nothing of the previous history, which parents are but too ready to conceal—might possibly be deceived by its apparent good health. It is one advantage, amongst some disadvantages of the law of Scotland, allowing the child to be six months old before vaccination is compulsory, that it is rare for congenital syphilis not to show itself before that period. Of 158 cases collected by Diday, in 86, symptoms appeared before the completion of the first month; in 45 more, before the end of the second month; in other 15, during the third month; and in 7, during the fourth month; leaving only 5, in whom 1 manifested symptoms of the disease for the first time in the fifth month, 1 in the sixth, and 1 in the eighth month, 1 at one year, and 1 at two years of age.

Of course the vaccinator must have a considerable number of cases from which to select vaccinifers. On an average he should have at least ten, especially when, as in public vaccinations, he is dependent upon them coming to him on the eighth day. For it will often be found that by that time the vesicles in many of the best vaccinifers have already passed their prime. For this reason we recommend that in private practice the cases should be seen on the seventh day, when the vesicles will generally be found sufficiently advanced to furnish an adequate supply of lymph.

It is chiefly to obviate the danger of communicating syphilis in vaccinating that lymph direct from the heifer or calf has been had recourse to. We would not be thought to scoff at this danger; but, considering that a single case of so-called vaccino-syphilis has never come under our notice, we may be allowed to say that, where proper precautions are taken, it has been much exaggerated. On the Continent, where the law does not give power to take lymph from the vaccinated, and the choice of vaccinifers is consequently limited, it is a different matter; and we cannot wonder at the fear entertained by parents regarding such contamination. We extract from Warlomont's *Manual on Animal Vaccination*, translation by Harries, p. 138, the following graphic description by M. Lanoix of the straits which a country doctor is put to in France in carrying on his vaccinations:—

“We know how things are done in the country at present. When the public vaccinator has been able—not without trouble, and often after several fruitless attempts—to develop

some vaccine in a child's arm, when he has obtained the mother's consent to allow him to make use of it, it is announced by placards or otherwise in the district, in the neighbouring villages, and even in the hamlets, that on such a day, at such an hour, vaccination will be performed.

"Often, the unwillingness or absolute refusal of the mother, entreaties, attempts to make her give way, the necessity for the country doctor to be there on the day named, at the hour fixed, deficiency of vaccine, the impossibility of satisfying all that come; these are the difficulties. With animal vaccination, on the contrary, these obstacles disappear. The vacciniferous heifer, retained at the *station*, may be placed for two or three consecutive days at the disposal of the medical men of the neighbourhood, and each of them will be able, according to his conveniences or his need, and without fearing recriminations, to procure any supplies of vaccine that he may find necessary." What is done with the poor animal afterwards is not said. Let us hope an end is as speedily as possible put to its misery.

*Animal vaccine* (Warlomont defines) *is the product of natural horse-pox or cow-pox, which has been cultivated on heifers, and has never quitted that soil.*

It is thus a cultivated in contra-distinction to natural animal vaccine lymph, and probably modified in the same way as the virus from inoculated small-pox was found to be less active and safer than that taken from the natural disease. It appears to be much less liable to fail, as also to produce severe effects. May it not even be liable to degenerate by numerous retractions, just as humanized lymph is said to do? Animal lymph is distinguishable, so far as our experience goes, which, we admit, is not great, in being more apt to fail than humanized lymph, and being much less easily regulated. It is slower in its action, and the vesicles go on extending up to the end of the second week, in many cases, by which time they have attained a great size. For these reasons it is not likely to supplant good humanized lymph in this country, so long, at least, as no uncalled for objections obtain among the people to "taking off" the latter, and no such scarcity exists as on the Continent. It is well, nevertheless, to maintain a stock of animal lymph, for the purpose of renewing the stock of humanized lymph, when from any cause it should appear to have degenerated, or become less efficient, as well as of furnishing unlimited supplies on emergency.

How long does the protection afforded by vaccination last? We have seen that it depends, to a great extent, upon the

amount and quality of the lymph inserted, and probably upon the manner of inserting it too, but, nevertheless, after a longer or shorter time protection in the great majority of cases becomes less; and although a good vaccination in infancy is almost a complete protection against *death* by small-pox, it is far from being so against the disease in a modified form, after a certain lapse of time. Re-vaccination ought, therefore, to be performed in order to renew the protection. The question then arises when should this be done? So far as statistics show, there is a great renewal of susceptibility at puberty. The period therefore appears suitable for its performance. Later in life, vaccinia is not so likely to run its course mildly; and earlier than that, except when the primary vaccination has been defective, it would not succeed well, and so render a repetition necessary at some later period. In Germany the law requires that all attending schools, whether public or private, be revaccinated at twelve years of age, and as by law all are compelled to be in school at that age, they have virtually a compulsory revaccination law. Could not something of the kind be adopted in this country? Already, all entering the Queen's service are required to be revaccinated, so that the principle is recognised by Government.

Has vaccination a therapeutic as well as prophylactic value? Numerous cases are recorded in which, after exposure to the infection of small-pox, it was had recourse to, apparently with the effect of arresting, or jugulating the small-pox, and others in which it modified the disease in a greater or less degree. The late Mr. Marson's opinion was as follows:—"Suppose an unvaccinated person to inhale the germ of variola on Monday. If he be vaccinated as late as the following Wednesday, the vaccination will be in time to prevent small-pox being developed; if it be put off until Thursday, the small-pox will appear, but it will be modified; if the vaccination be delayed until Friday, it will be of no use, it will not have had time to reach the stage of areola, the index of safety, before the illness of small-pox begins." More recently we read in the *Lancet*\*:—"A Russian medical student, M. Gubert, by repeating the vaccination on three successive days was able to produce matured vesicles in four or five days. This rapid saturation of the organism with the vaccine virus, enabled M. Gubert to arrest the development of the disease in twenty-seven persons in whom, he states, he was quite certain that the small-pox was incubating, while in twelve others the disease was so modified as to be considered

\* *Lancet*, 3rd July, 1886, p. 25.

only varioloid. All the experiments were carried out with calf lymph." This is in accordance with the view we have expressed above—"That it is by localising the disease in the skin that there is so much difference between inoculated small-pox and the disease as it arises in the natural way." We think the practice well worthy of a trial; only we would suggest the use of good humanized lymph, as more rapid in its action, in preference to calf lymph, and that it should be extensively inoculated at once, by superficial scarifications to insure its local effect more quickly, instead of on three successive days, as practised by M. Gubert.

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## NOTES OF SURGICAL CASES OCCURRING IN NEWFOUNDLAND.

BY DR. W. ANDERSON, HEART'S CONTENT.

### I.—CANCER OF THE LIP.

J. H., aged 56.—In October, 1881, this man presented himself suffering from a recurrence of cancer of the lower lip. An operation, I was told, had been performed more than a year before he applied. A V-shaped gap of some depth existed, and the edges of that, and to a great extent the edges of the lip on each side of it, were thickened and ulcerated. The whole chin was thickened, and various cervical glands were enlarged and hardened. The general health and the spirits of the patient were good. I had many misgivings about operating, but yielded to an "inward" plea that a few months' respite might give the chance of death from something less horrible than the extreme results of cancer. Under chloroform the whole lower lip and the chin were included by a deep incision. The vessels being secured, this was carried to the bone, and the soft parts separated. An exfoliation was found adherent. The second right lower molar tooth being absent, the jaw has divided through its place, and subsequently through that of the second left incisor, and the included portion of jaw removed. Then followed the removal of several lymphatic glands. For restoration an incision was made from the lower edge of the wound vertically in the middle line to the episternal hollow, and one transversely to its lower end to the posterior border of each sterno-mastoid muscle. The flaps were dissected back till it was possible, without any tension, to raise them up in place of the parts removed, and

to adjust them with horse-hair sutures in the middle line as far down as the larynx. Similarly their upper edges were adjusted along the line of incision that began in the outer portion of the upper lip on each side, and was carried within view of the edge of each masseter muscle. A solution of permanganate of potash in a bottle, with a tube leading from it, suspended over the bed, afforded ready irrigation. A pad of oakum under a bridle bandage, changed daily, was a very satisfactory dressing. Union throughout a large extent of the lines of incision had taken place by the third day, and by the twelfth day, when the man left for home, granulation over the larynx, and lower down was well advanced.

The man called a year ago to show himself, and I have reason to believe the reports, which show him to be now, as then, free from return of the disease, and in good health.

Thomas Knott, aged 48. This patient had been affected with cancer of the lower lip for seven years when he came in the hope of being operated on in February last. In his case it was necessary to remove the soft parts more fully than in the previous one, to the extent in all of 5 inches by 3. A shaving of bone was removed to reduce the chance of tension of skin flap, though the lower jaw was sound. A lymphatic gland near the posterior border of the left submaxillary gland, and one under the floor of the mouth, were removed, and the neighbourhood touched with solid chloride of zinc. A portion of the substance of the salivary gland was hardened, and removal was thought of. Second thoughts suggested "hypertrophy from irritation," and it was spared, very happily, seeing that a few applications of iodine brought it to a natural state. The patient did well, and a recent message—he lives between 400 and 500 miles away—says the lip is all right.

The above two were the last of a series of seven advanced cases of lip cancer, five of the lower lip, two of the upper. The first two of the lower lip recurred, and brought about death within a year, and taught the necessity of keeping well wide of the disease. The third kept all right for three years, and died within six months of recurrence in the deep cervical lymphatics. Then followed the two cases of removal of the whole upper lip. One, a female, died within a year of a bodily ailment, without recurrence; the other, a male, operated on six years ago, remains free.

The question in advanced lip-cancer as to the propriety of operating, is in some degree answered by the first of the two cases detailed. How far might one go in the attempt at

removal? Very considerably further than the details given. More advanced cases might be attempted, and the line of incision for removal carried as far back as the space between the submaxillary glands extends. For restoration, the vertical incision might go as far as the manubrium sterni, and the transverse one cross its termination. Should the lower jaw be very obtrusive, and so put the flaps on the stretch, the saw would adapt it to circumstances, and in a very desperate case it might be wise to remove its middle portion, whether apparently sound or not, seeing that the line of the fold, so very closely attached, and not readily cleaned away, might prove infiltrated. To this I have sometimes attributed the recurrence in my second case. As to the glands, the freer the raising of the soft parts, the easier the search for them, and the likelier their removal. These are the days of "rescue to the uttermost," and possibly the result of J. H.'s case may encourage others, like myself, obliged to learn what can be carried through by *trying*.

## II.—GUN EXPLOSION ACCIDENTS.

The last of a series of five gun explosion injuries recently returned home after amputation of the left hand above the wrist. The tendon of the flexor longus pollicis had been torn through high up, and dangled from the last phalanx, the base of the thumb being shattered and holding on by a tag of skin. The soft parts were intact upwards from a little above the line of the wrist joint. The hand and wrist were too much shattered to afford the chance of saving anything useful.

The *third* case of this series was W. T. B., aged 36, of fine physique, and in good health. In April, 1884, thirty-one miles in the deer-country, he fired at a stag, and his gun, charged heavily with three round bullets, burst. His companions hurried off with him for home, after reaching which they had two hours' rest, and then placed him in a boat, which they brought nine miles down Random Sound on ice with the intention of crossing Trinity Bay to this place. A little way off the ice-edge was a schooner, and the travellers were taken on board and landed here after a few hours' sail.

The left hand was found divided through from the space between the index and middle fingers obliquely backwards, the fissure terminating over the inner side of the lower end of the ulna, which was partially chipped off, and prominent in the wound. The triangular ligament was ruptured, the wrist joint quite open. The carpal bones were in several instances

separated, the unciform lay loose in the wound. The central portions of the index, middle and ring metacarpal bones were missing, the tendons corresponding to the two latter destroyed. The muscles of the ball of the thumb were intact, the tendon of its long flexor exposed near the carpus. The three inner fingers were absent. The adductor of the thumb being sound, it was resolved to try to save the thumb and forefinger, and to use everything likely to survive of the inner portion of the hand to give breadth. The end of the ulna was sawn off, the unciform bone picked out, the palmar arches tied, and the wound generally trimmed up. One drainage tube was stitched in near the end of the radius, and tied round the tip of the index finger; a second near the centre of the wound, and led forward. The antiseptic used was corrosive sublimate for the interstices of the wound; a solution of one in four thousand of water, with a small quantity of carbolic acid and spirit of wine, being passed through the tubes twice daily. Oakum was wrapped round all as far as the middle of the forearm, and rest secured by poro-plastic splints. The drainage tubes were removed on the fourteenth day. At the end of six weeks the patient left for home, having experienced hardly any pain or fever. Healing was complete, except over the back of the wrist where a few flabby granulations existed. From this place, in course of the succeeding twelve months, some scraps of bone came away.

In June, 1885, B. showed a fairly useful thumb and forefinger. The central portion of the index metacarpal bone had been restored, there was slight hinge motion of the wrist joint. In a general way, B. felt himself nearly as good as ever for his work as a fisherman. Another instance of a long and trying journey after the accident, occurred in Case No. 4, in which, on a cold, raw day in March, the patient, bleeding freely, and quite blanched on arrival, was brought nine miles on a sleigh, with the left hand and wrist and the lower third of the forearm hopelessly shattered, as though caught in machinery. (A gun with a bullet that tightly fitted its bore had been aimed at a seal). Recovery after amputation was complete by the sixteenth day.

Scarcely anything that could favour tetanus, cold, damp atmosphere, fatigue, haemorrhage, laceration of soft parts, irritation by small pieces of bone, was absent in those two cases, and one of them was travelling during twenty-two hours. They seem to count in favour of the views of those who think that tetanus arises from the formation within wounds of a fermentation product that acts on the spinal

cord so as to suppress its rule and permit the muscular spasms.

### III.—CHLOROFORM.

In conclusion, I beg to offer a few remarks about chloroform. During nearly twenty years of practice, I have had much to do with it, without ever seeing occasion to transfer my faith to any other anaesthetic. Invariably in adults, I administer 4 drams of aromatic spirit of ammonia, or 15 grains of the carbonate in half a cupful of water, within an hour of commencing inhalation, and find I can nearly always count on a well sustained pulse. Nitrite of amyl acted thoroughly well in three instances of surface paleness with indifferent respiration. Very likely many surgeons could record the same happy experience of the aid of ammonia, but the absence of any mention of the use of it a *sufficient time before the chloroform to ensure absorption*, strikes one in reading the painful accounts of death from the inhaling of the anaesthetic.

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## TWO CASES ILLUSTRATING THE DIAGNOSIS AND TREATMENT OF FOREIGN BODIES IN THE NOSE.

By J. MIDDLEMASS HUNT, M.B., C.M.Glasg. ;  
Surgeon to the Throat and Ear Department, Newsham Dispensary, Liverpool.

THE following two cases, which came under my notice recently at the Newsham Dispensary, will serve to illustrate a few points in the diagnosis and treatment of foreign bodies in the nose ; points which are not, I think, sufficiently insisted upon in our surgical text books.

The first case was that of a boy, aged 4, who was brought by his mother on account of a fetid discharge from the right nostril, of eight months' duration. He had already been under treatment at another public charity in this city, where the mother was told, "the disease was constitutional," and a nasal douche and tonics were ordered. When I saw him he certainly had quite the look of a child suffering from strumous ozaena, with thickened, excoriated upper lip, and eczema of both anterior nares. There was no history of the introduction of a foreign body into the nose.

On examining the right nostril, it was found to be completely obstructed about the middle of the lower turbinate bone by what seemed a collection of mucus, but on trying to remove this with a fine forceps I found it was only the

covering of a foreign body which slipped from the grasp of the forceps. I, therefore, bent the point of an ordinary probe, passed it behind the obstruction, and easily succeeded in dragging it forwards. It was a cherry stone. Beyond prescribing an ointment for the eczema of the nares, there was no other treatment. A week afterwards, when I saw the patient again, the discharge had ceased and the foetor was gone.

The second case came under my notice a week later, and illustrates a similar condition, though detected at a much earlier stage. The patient was a child  $2\frac{1}{2}$  years old, who was brought to the Dispensary on account of obstruction of, and discharge from the left nostril, which had only been observed a few days previously. No cause was assigned, and no foetor had been noticed.

In this case, there was nothing to observe about the child except the blocking of the left nostril with half-dried mucus, such as one sees in an ordinary nasal catarrh. After the removal of this dried secretion, however, I came upon a hard substance a short way within the nasal orifice, which, as it presented a sharp edge, I removed with forceps. It was half of a damson stone. My impression was, that it had only been in the nose for a few days, and this was confirmed by the statement of the mother, that the child had been eating damsons about a fortnight previously. The secretions around it were already quite foetid.

As regards the diagnosis and treatment of foreign bodies in the nose, I think the following rules may be laid down as the safest and most practical lines upon which a surgeon can proceed. They guided me in the above, as they have done in previous cases, and I believe that if acted upon they will at least prevent an erroneous diagnosis being arrived at.

I. In all cases of discharge from the nose (especially if foetid or unilateral), thoroughly cleanse the nasal cavities by means of sprays, syringing, or forceps, as a preliminary step.

II. Examine the nasal fossæ completely and carefully by means of speculum and mirror. It is not sufficient merely to raise the tip of the nose with the thumb and look in. You will see very little indeed by such a method, especially in children. If you have no nasal speculum, make one by bending a common hair-pin about an inch from its rounded end, or use an ear speculum.

III. Having detected a foreign body, do not try to remove it by douching through the opposite nostril, as there is danger of fluid entering the middle ear by the damming back of the

current on the obstructed side. This is no merely theoretical objection.

IV. Where the foreign body presents a sharp edge, extraction is best managed by forceps. Since a rounded body, especially if covered with mucus, will probably slip from the grasp of the forceps, it is best removed by passing a bent probe or scoop behind it and dragging it forwards.

The above rules apply equally to the removal of foreign bodies recently introduced. The skilful use of forceps, or probe, is even less objectionable than the "pinch of snuff" treatment, or any of the other ingenious but disagreeable methods usually recommended. These reached a climax in a recorded case, where an emetic was administered and the mouth held so as to wash out the foreign body by means of the contents of the stomach!

Cocaine is of great value in these cases, not only in reducing the sensitiveness of the mucus membrane, but also in contracting the spongy tissue over the turbinated bones, thus facilitating both examination and extraction.

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## ON THE ETIOLOGY OF "HOUR-GLASS" CONTRACTION OF THE UTERUS.

By JAMES JOHNSTONE, L.R.C.P. and S., GOVAN.

*(Read before the Southern Medical Society, 23rd December, 1886.)*

WE shall not discuss the scientific accuracy of the terms used to define that irregular contraction which sometimes occurs in the middle or lower third of the uterus, after the birth of the child and before the expulsion of the placenta, and which renders its extraction a difficult and somewhat dangerous operation.

Writers on the subject differ as to the causation of this irregular contraction. A number of them agree that it is caused by improper management of the third stage of labour. In some cases adherent placenta seems to be the exciting cause. Smellie has recorded ten cases of irregular contraction, and in at least seven of them the placenta was adherent. The uterus seems to recognise the fact that an extra effort is required to throw off the adherent placenta, and contracts with unusual vigour. The site of the placenta being the weakest part of the uterine walls, contracts with the least

energy ; or, as some prefer to put it, remains in a state of comparative inertia, and so the placenta comes to be encysted.

Pulling the cord, rapid emptying of the uterus, improper application of a bandage, and administration of ergot, have all been given as probable causes. Playfair quotes from Braun to indicate that "abnormal adhesion and hour-glass contraction are more frequently encountered in the experience of the young practitioner, and they diminish in frequency in the direct ratio to increasing years." There is an air of superior knowledge about such an oracular statement that ought to command respect, but it does not finally settle the matter. Such a statement made by one great authority, and endorsed by another no less eminent, just amounts to this—that young practitioners make mistakes in the management of the third stage of labour, which somehow they manage to avoid as they get older.

The fact of such a statement having been made by such men may be taken as a proof that even they were not able to put their finger on the error or errors that had been committed. Doubting the veracity of the young practitioner, or pooh-poohing the existence of hour-glass contraction, will go a very short way to convince any one who has had the misfortune to meet with such a case that his senses were not to be depended on. Very probably a number of exciting causes may produce this abnormal condition. One practitioner may have committed one mistake and another another, and it is only by each one confessing his blunder, and honestly stating what appears to him to have been the error he committed, that we can expect to arrive at any definite knowledge of the cause of this condition. Improper management of the third stage is far too indefinite, and conveys no real information.

In 1884 the subject was discussed in the *British Medical Journal*, and several of the writers expressed a suspicion that ergot had caused the condition in the cases that they related. In 1879 the subject was discussed by the Obstetrical Society of Philadelphia. The president, Dr. Harlow, introduced the subject by saying that it was a well established rule in that city that ergot should be given only at the end of the second stage of labour to accelerate the delivery of the placenta and to prevent hæmorrhage. He asked the question—Does ergot hasten or retard the delivery of the placenta ? and said that "ergot sometimes overacts and produces irregular contractions of the womb, retarding thereby the delivery of the after-birth."

I agree with Dr. Harlow that ergot acts in that way, and

that very frequently, if given, as it seems to be generally given in Philadelphia, to accelerate the birth of the placenta. I believe that ergot acts on the uterus very much in the same way that digitalis acts on the heart of the frog. Nunnely, quoted by Ringer, says, when speaking of the frog's heart under the influence of digitalis, "The ventricular systole is lengthened, but it is of a very different appearance from the systole in health. The ventricle seems to act, not as a single muscle, but as if made up of numerous small ones, which contract energetically, but in an irregular and disorderly way. Hence there are projected bundles of contracted muscular fibres which give the ventricle a rough and uneven surface, and an irregular outline. During the diastole the ventricle does not everywhere assume a red colour, but one or more red spots appear as if the ventricle were so tightly compressed that only a small quantity of blood could enter it by chance. Sometimes the red spot is elevated above the general surface, forming a kind of pouch. These become smaller and smaller, until the ventricle is left pale, strongly contracted and motionless." But we have some direct proof that the uterus can be acted on in this way. Basch and Hofmann, quoted by Lauder Brunton, "consider that the impulses pass to the uterus from the central nervous system along two sets of nerves. One is composed of nerves passing from the inferior mesenteric ganglion to the hypogastric plexus. Stimulation of these causes circular contraction of the uterus, descent of the cervix, and dilatation of the os. The other set consists of branches passing from the sacral nerves across the pelvis to the hypogastric plexus, and representing the *nervi erigentes*. On stimulation of these the uterus contracts longitudinally, the cervix ascends, and the os closes." I think this subject wants further investigation, and that a little time and trouble, bestowed on it would give some interesting results.

I now come to my own experience. A number of years ago when I was the pupil of a practitioner who at that time had a very large midwifery practice in one of the midland counties of England, I had the misfortune to meet with a bad case of *post-partum* internal haemorrhage. I was so alarmed at the narrow escape the woman had, that I concluded I had had quite enough of medical practice, more especially of midwifery. My friend laughed at my fears, and assured me that if I would remember to give a dose of ergot before the birth of the child, I would have no more cases of *post-partum* haemorrhage. I had been in the habit of carrying a bottle of ergot in my pocket before this, but now I began to use it.

Of course, I had got the usual cautions as to its use to be found in all text-books on the subject; but I wished to give a dose of ergot in every case. I had learned, from watching the effects of the drug, that it took from fifteen to twenty minutes to show its action on the uterus after being taken into the stomach. With that knowledge to begin with, I gave ergot in every case, with this consideration, that where the pains were weak, I gave it to hasten the birth of the child, and where the uterus was contracting strongly, I waited till, as near as I could guess, fifteen minutes before the birth of the child, and then I administered a dose. I had no more cases of *post-partum* haemorrhage; but in a very short time I had five cases of hour-glass contraction. There was clearly an error somewhere. I suspected that ergot was to blame; but I had given ergot in every case, and hour-glass contraction did not always occur. On going carefully over the cases that I had attended since I had used ergot in this way, I found that it only occurred in those cases that did not absolutely need it. The uterus in such cases had been contracting vigorously, and the ergot had been given with a view to its action after the birth of the child. Acting on that consideration, I became more cautious in giving ergot, and now I hardly ever use it. It is now eleven years since I met with these cases, and I can't remember having seen a case since.

That experience may be purely a coincidence, but I am inclined to think that it is something more. I think it probable that ergot always acts through the first set of nerves mentioned by Basch and Hofmann, and that in an irregular manner, much the same as digitalis acts on the frog's heart. When the ergot acts on a full uterus, the most energetic fibres exhaust themselves on the expulsion of the child; but when it acts on a comparatively empty uterus, containing only the placenta, no check is offered to this irregular action, and hence the hour-glass contraction.

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## CURRENT TOPICS.

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GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—At its meeting on the 14th February last, the Society had under consideration the report of the committee appointed on the 10th January, "to consider the financial position of the Society and whether any change should be made in its Rules."

Principal points of the report: Causes of increased ex-

penditure.—Recommendations: To have a fixed annual subscription of 10s., and to abolish fines for non-attendance: To have an annual financial statement presented to the Society: To discontinue the publication of the "Transactions" in their present form: To abolish the limitation in the number of members, and to have arrangements for the admission of new members annually from amongst those who have been working for the Society, the number to be elected to be fixed from year to year by a special committee appointed annually for this purpose: To have the Rules so altered as to give effect to these changes.

The meeting was not large, but the report was fully discussed and criticised by the members present. The committee's report was adopted, with the exception of that portion of it dealing with the admission of new members. It was pretty generally felt, that to adopt the suggestion as to the increase of the membership would abolish one of the main distinctive features of the Society, and would place the committee to be appointed for fixing the number of elections in a somewhat invidious position. It was therefore resolved to retain the membership at 40 as at present, with the understanding that at any future time when it should seem necessary to the Society, this number could be increased, although at present there would not seem to be any such need. The two vacancies in the membership were filled up by the election of Drs. G. T. Beatson and T. K. Dalzell.

**GLASGOW MEDICO-CHIRURGICAL SOCIETY.**—On the evening of 11th February last a discussion on the Pathology and Treatment of Cerebral Abscess was inaugurated. There was a very large attendance of members and visitors, so that the Faculty Hall was packed, many of the gentlemen not being able to find sitting accommodation. The meeting was adjourned till the following day at 4 p.m., when the proceedings were concluded. A number of medical men from Edinburgh and the country were present at the meetings. The discussion was opened by Dr. Wm. MacEwen, and the following gentlemen took part in the proceedings—viz., Mr. A. E. Barker, of University College Hospital, London, Dr. Thomas Barr, Dr. W. F. Sommerville, Professor Greenfield, Edinburgh, Mr. F. Caird, Edinburgh, Dr. Alex. Robertson, Dr. Workman, Dr. Erskine, and Dr. Joseph Coats, who officiated as chairman.

**BACTERIOLOGICAL LABORATORY AT THE WESTERN INFIRMARY.**  
—We are pleased to learn that in the pathological department

of the Western Infirmary a laboratory for this most important department of pathological research is at present in process of being established. The labour of collecting and arranging reagents and apparatus has been undertaken by Mr. A. E. Maylard, and there is every prospect of the laboratory soon being in efficient working order. The funds necessary for carrying on this work are being raised by private subscriptions, and we are glad to know that a very hearty response has been given to the appeals already made. A laboratory of this kind, under the direction of Dr. Joseph Coats and Mr. Maylard, cannot fail to be a most important addition to the means of scientific research in our Western Hospital and in the Glasgow School generally.

**THE ELECTRICIAN'S DEPARTMENT AT THE ROYAL INFIRMARY.**—This department, of which we gave a short account in a previous issue, is now in full working order. So far the great advantages of such a department have been fully appreciated by the members of the staff both for purposes of diagnosis and treatment. The arrangements have been made so that not only in-patients but also those attending the Dispensary can have the full benefits of carefully carried out electrical treatment. The electrician's room in the "Royal" is well worth a visit from those who are interested in medical electricity, and Dr. Macintyre is to be congratulated on the efficient and thorough manner in which he has accomplished his work.

**DEATH OF NURSE KING, ROYAL INFIRMARY.**—The death of a hospital nurse in the midst of active duty merits more than a passing notice. It called forth at the Royal Infirmary, the other day, more than ordinary remark and sympathy. Nurse King, of Ward XII, well known and respected in the hospital, died from pneumonia, after a few days' illness, in her own ward. There was not much time for special arrangements when they might have been deemed by some admissible; but we think that the little side-room of her ward, just on the line of duty—of duty so well done—was a fitting place for her to die. On the 15th January, the third day after her death, the funeral service was held in the nurses' sitting-room. The Rev. Mr. Pullin, of St. Luke's Episcopal Church, of which deceased was a member, officiated; and there were present—Miss Wood (the matron), the assistant matrons, Dr. Thomas, Dr. Wallace Anderson, Dr. Thorpe (the resident assistant of the ward), the chaplain, the janitor, and all the nurses who could be spared from duty, numbering above sixty. After the service

these all formed the funeral procession, with representatives from the students of both Royal and Andersonian Schools in addition. The coffin was covered with wreaths from the nurses, the students of both schools, and other friends; but the most touching sight was the long, sad train of fellow-workers wending their way to the adjoining Necropolis—nurses, doctors, and students whom she had left behind to continue, in the same unselfish spirit, her care for the sick and dying.

#### NOTES FROM PAISLEY.

THE PAISLEY MEDICAL SOCIETY, which has at its disposal a small but useful library, has this year extended its bounds, and now comprises most of the medical men in Johnstone, Renfrew, and Barrhead, as well as the local practitioners. Its office-bearers for the present session are:—Dr. Taylor (Paisley), President; Dr. Donald, Vice-President; Drs. Hutchison and Crawford, Joint-Secretaries; and Dr. Graham, Treasurer. At the first meeting—Dr. Taylor in the chair—Dr. Fraser showed, as fresh specimens:—(1), Tubercular ulceration of the ascending colon, with secondary deposits in the mesenteric glands and the right kidney, and advanced amyloid degeneration of the liver, spleen, and left kidney; (2), Extensive cancerous disease of the stomach and omentum from a man, aged 42; and (3), A dermoid cyst of the left ovary. Dr. Hutchison read an interesting paper on cardiac hypertrophy and dilatation, written fifty years ago, and Dr. Fraser showed an illustrative case of marked hypertrophy of the heart in a case of chronic Bright's disease, in which the cardiac sounds were, if anything, weaker than normal. Dr. Fraser also showed a case of pachymeningitis, with paresis of the left arm and leg, following a severe blow over the vertex. At the second meeting, Dr. Donald in the chair, Dr. Crawford showed a case of molluscum in a child where the small tumours were confined to the face, and Dr. Donald showed a case in an adult where they were scattered in great numbers over the body, those in the scalp being indistinguishable from ordinary wens. Dr. Donald also showed a case of extensive suppuration in the knee-joint in a boy, where he had freely opened the joint, with the result that the disease had recovered with a partial dislocation of the tibia backwards on the femur. It was one of a series of such cases he had had, but he had not followed up the ultimate result. Dr. Donald also showed a case of hip-joint disease, very successfully treated on a Thomas'

splint. At the last meeting, held on 20th January, Dr. Fraser in the chair, Dr. Gibb read an admirable and practical paper on pleuritic effusion, with special reference to treatment by aspiration.

**SANITARY REFORMS IN PAISLEY.**—The citizens of Paisley have again got alarmed at the high death-rate and dissatisfied with the dirt of the town, and their feelings have obtained unusual prominence in the Town Council, which has hitherto earned an unenviable reputation for long-suffering in matters which so closely touch the happiness and the safety of the community. An additional number of scavengers has been appointed. Bills have been posted up all over the town demanding a closer observance of those decencies of cleanliness which are supposed to characterise modern civilisation, and it is to be hoped that the warnings therein contained shall not altogether be allowed to remain dead letters. And last, but not least, a thoroughly competent Sanitary Inspector has been appointed in the person of Mr. G. A. D. Mackay, who comes from Greenock with a capital reputation. Judging from the salary they have promised the new Inspector, the Council seems at last to have awakened to the importance of the subject, and it is to be hoped that no narrow minded policy will be allowed to creep in, and, with a view of saving the extra £85 of salary, cramp this effort of Mr. Mackay to improve the sanitary condition of our good old town.

WE regret to learn that Dr. Taylor, the kindly President of the Medical Society, finds it necessary to take a somewhat lengthened holiday in the sunny south on account of his health. We hope he will return much benefited by his trip.

**THE SIXTH GERMAN "CONGRESS FÜR INNERE MEDICIN"** will be held at Wiesbaden, from the 13th to 16th of April next, under the presidency of Dr. Leyden, of Berlin. The following is a list of the subjects for discussion and of the papers to be read:—On the 13th a discussion on the Therapeutics of Phthisis will be introduced by Drs. Dettweiler (Falkenstein) and Penzoldt (Erlangen); on the 14th, on the Localisation of Diseases of the Brain, by Drs. Nothnagel (Vienna) and Naunyn (Königsberg); and on the 15th, on the Pathology and Therapeutics of Whooping-Cough, by Drs. A. Vogel (Munich) and Hagenbach (Basel). Dr. Lichtheim (Bern) will read a paper on Pernicious Anæmia; Dr. Rindfleisch (Würzburg) on the Pathological Anatomy of *Tabes Dorsalis*; Dr. Unverricht (Jena) on Experimental Epilepsy; Dr. Rossbach (Jena)

on the Physiological Significance of Leucocytes Extravasated from the Tonsils and the Glands of the Tongue; also on Chyluria; and on a Respiration Chair for patients suffering from Emphysema and Asthma.

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## REVIEWS.

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*The International Encyclopædia of Surgery.* Vol. VI.  
Edited by JOHN ASHURST, JUN., M.D. London: Macmillan & Co. 1886.

PURSUING the course adopted in the preceding volumes, we proceed to notice separately the articles of the various contributors.

“Injuries and Diseases of the Oesophagus,” by J. Solis-Cohen, M.D., Professor of Diseases of the Throat and Chest in the Philadelphia Polyclinic; Honorary Professor of Laryngology in the Jefferson Medical College; Physician to the German Hospital, &c.

In the fifth volume of the *Encyclopædia* the author is the contributor of an article on “Injuries and Diseases of the Air Passages,” and in our review of this we very warmly eulogised Professor Solis-Cohen for the great care and labour expended upon the subject. No less praise is due to the admirable and exhaustive discussion of the present subject. While the text itself is full and complete, the references are all that could be desired. As we have now more than once pointed out, the chief value of an article rests upon the copiousness of the latter, and on this particular point both Professor Solis-Cohen’s contributions afford the utmost facilities. The present article is further enhanced by numerous woodcuts. Among the causes of death some weeks or months after the operation of gastrotomy for stricture of the oesophagus, we fail to notice that of pulmonary gangrene, an association, the frequency of which has led to much pathological speculation.

“Intestinal Obstruction,” by John Ashurst, Jun., M.D., Professor of Clinical Surgery in the University of Pennsylvania.

Notwithstanding the arduous duties attending the editing of the present work, Professor Ashurst has found time to add a second article to that already contributed in the first volume. The subject is perhaps rather briefly discussed, but the author manages to put a great deal in a very little space.

Like the article upon "Amputations," this one abounds in elaborate statistics, and these like those are valuable, not only for the general inferences permitted, but also for the references given, each case having affixed the source from which it was derived.

While the author has mostly limited himself to the expression of current opinions either upon means of diagnosis or method of treatment, upon the general treatment of intestinal obstruction he has asserted his personal conviction somewhat forcibly. Thus:—"I very much fear," he observes, "that at the present day the hasty resort to operative measures, encouraged by the much vaunted modern triumphs of 'abdominal surgery,' is responsible for the loss of a good many lives which might perhaps be saved by more rational, if less brilliant treatment." We must confess this reads somewhat strange, and certainly in contradiction to the more generally received view. While, doubtless, the chief thing needed is greater certainty and accuracy in diagnosis, yet delay too frequently reveals the greater likelihood of success which might have attended earlier interference. "I would strongly urge," continues Professor Ashurst, "that the surgeon should not, in any case of intestinal obstruction, open the abdomen, unless he has been able to form some distinct notion of what he expects to find, or at least until he has been able to satisfy himself that there is positive mechanical obstruction, and that no less dangerous operation [laparotomy] will suffice for its relief." This latter remark follows upon some fears that the author has, that an article published by him some twelve years ago, had had much to do in popularising the operation of abdominal section in cases of obstruction. Supposing this so, we fear the quotation above inculcates a teaching which is likely to be as detrimental in the other extreme. For, unfortunately, it is rather the exception than the rule for the surgeon to have "some distinct notion of what he expects to find" in this particular class of cases, and the delay which too frequently is permitted in the hope of gaining such "distinct notions," is that which reveals the final hopelessness of the case. We may give one more quotation, as it arises from the personal observation and experience of the author. On the treatment of acute obstruction, he observes:—"I am led to believe that a large proportion of the cases of acute intestinal obstruction met with in practice are really examples of enteritis, and that if they were recognised as such and promptly treated, the number of recoveries would be much larger than it is at present. . . . I have no hesitation in saying that the

remedy of prime importance is direct depletion by blood-letting."

"Injuries and Diseases of the Rectum," by William Allingham, F.R.C.S., Surgeon to St. Mark's Hospital, London.

The article is essentially a monograph treating of the personal experience and practice of the author; and, indeed, as regards operative measures, only such as Mr. Allingham is himself accustomed to adopt, are discussed at any length. Not only, therefore, is the text peculiarly exclusive, but there is a scarcity—indeed, almost an entire absence—of references to current literature upon the subject. This, as we have but too often pointed out, is much to be regretted, as depriving the article of its most essential attribute, that of being encyclopædial. However, taking the contribution on its own merits, there is much to be commended, and the whole indicates the production of one well versed in the subject. The author first treats of the Anatomy of the Rectum, and it is a little strange, in the light of the teaching of anatomists, and also in the published experience of surgeons, to find doubt, or rather disbelief, expressed in the existence of the folds of Houston. They no doubt vary much in size and number, but certainly are found; and, as in a case published in the Dublin Hospital Reports, impeded considerably the introduction of instruments. On the extent to which the rectum is covered by peritoneum Mr. Allingham justly throws much doubt on the usually too explicit account given by anatomists. Thus, in one case five inches of rectum was removed, without even seeing the peritoneum; while in another case Douglas's pouch was only two inches from the anus. We should feel somewhat inclined to take exception to the treatment prescribed under the case of fistulæ. The author observes—"When the fistula has been divided from the external to the internal opening, search is made higher with the probe for any sinus running up beyond the internal opening; if such exists it must be laid open." This last point of the operation is that, the necessity for which we should question. It was a knotty little point with the late Professor Syme, who expressly drew attention to the needlessness of doing anything further than dividing between the two orifices.

One, perhaps, of the most instructive sections of the article is that dealing with ulceration and stricture of the rectum. The symptoms are graphically described, and the subject, generally very minutely gone into. The operation of excision of the rectum may still be said to be *sub judice*, and it is interesting, therefore, to note the results of the author's treat-

ment of the cases. "Thirty-six cases have been operated upon since 2nd March, 1874; twenty-six only, however, have been followed up. Of these—

1	died about 4 years after the operation.
1	" " 2 "
2	" " 2 "
5	over 18 months "
7	about 1 year "
5	from the direct consequences of the operation.
5	I know to be still alive.

"Of the ten patients lost sight of, all went from my care after two months when the early dangers attending the operation had passed away; two I saw after six months, and their cases bid fair to be very successful." The conclusion which Mr. Allingham comes to, as the result of his own experience, is, that in properly selected cases the operation is one likely to afford excellent results. Of the treatment of rectal cancer by colotomy the author is averse to the operation excepting in those cases where the patient's life is in peril, or an opening has taken place between the rectum and the bladder, or even the vagina high up, or when the disease is rapidly advancing, and all treatment fails to relieve pain.

In the treatment of internal haemorrhoids the *screw-crusher* is almost exclusively used by Mr. Allingham, and in such cases as it is not applicable, the ligature. "In over 500 cases treated by crushing, I have not had one death from any cause whatever, and in 1,800 cases of ligature but one doubtful one. In this case the patient, who was old and very bronchitic, succumbed in 36 hours after the application of the ligature, from acute pneumonia."

"Urinary Calculus," by E. L. Keyes, A.M., M.D., Professor of Genito-Urinary Surgery in the Bellevue Hospital Medical College of New York.

This article ranks among the best in the *Encyclopædia*, and, indeed, we might almost say of the various separate disquisitions on the subject. It is replete with information from the earliest times to the most recent. While the author's own experience is large and extensive, it does not egotistically obtrude itself upon what the work demands—an impartial and general review of the whole subject. Hence we find numerous references to collateral literature, and a liberal notice and consideration of the views and teaching of various authorities.

After a short, but interesting allusion to the history of

stone, the author passes to the discussion of its geographical distribution, indicating the various countries and particular localities where it is most prevalent, while information is obtained from almost every quarter of the globe; the only conclusion derivable is, that the peculiarities of distribution found to exist are not satisfactorily accounted for by any peculiarities of water, food, or climate.

One, perhaps, of the most instructive sections is that dealing with the cause of stone formation. The researches of Dr. Ord upon the influence of colloids upon crystalline form and cohesion are extensively drawn upon, as also those of others who have especially worked at this branch of the subject. The whole is very concisely and clearly put together, and gives a very good insight into a particular branch of the subject which does not usually find a very prominent or extensive notice in the ordinary run of text-books.

In classifying urinary calculi the author divides them into primary and secondary stones; the primary being formed originally from altered urine and colloids; the secondary follow as a consequence of inflammatory lesions of the mucous membrane of the urinary tract, without regard to the condition of the urine in respect to its various salts. Under the first division come the uric acid, oxalate of lime, cystine, xanthine, carbonate of lime, crystalline phosphate of lime and indigo; under the second, urate of ammonium, triple phosphate, amorphous phosphate of lime, fusible calculus, and urostealth.

With a further description of the structure of stones, their gross characters and chemical constitution, the author passes to the discussion of the pathological results of urinary calculus. Under this head are included not only the actual lesions which a stone in any particular part of the urinary tract gives rise to, but the general symptoms which are thereby engendered. Naturally that part of the section which deals with stone in the bladder is the most important, and is treated at considerable length. From the author's remarks, the sudden stoppage of the stream during urination would appear to be by no means an infrequent symptom, and thus strangely in contrast to the experience of Sir Henry Thompson, who observes, in a recent discussion of the subject, "I am almost ignorant (of the symptom) in practice." Under the heading of "Distant Reflex Pains," some unusual and interesting phenomena are referred to. Thus, pain in the left arm existed as a reflex symptom of vesical calculus. Pododynia or podalgia, pain in the foot, is often a reflex symptom of irritation near the neck of the bladder or in the prostate,

and may be associated with stone. It is very rare in young persons, quite common in old men, but more often absent than present in a case of stone at any age. It is usually situated in the sole, generally occupying one of the phalanges or the ball of the great toe. This pain may be a sharp sensation, a feeling of burning, or one of intense coldness. Another reflex phenomenon of stone is epilepsy. In one case it occurred in a boy five years old. It had lasted for two years, and disappeared permanently a fortnight after extraction of the stone.

In discussing the diagnosis of stone, the author draws attention to a little practical point in the process of sounding which he has found successful when the usual method of searching has failed. It consists in making the patient stand erect with the searcher still in his bladder. The urine is allowed to flow away through the searcher, and as it does so the beak of the sound should be held quite close to the neck of the bladder and rotated from side to side until every drop of urine has passed. In this way, the author observes, it is difficult for even a minute stone to escape detection.

The treatment of stone is described at great length, and the sections on Lithotomy, Lithotripsy, and Litholapaxy are copiously illustrated. In cases of crushing, where the lithotrite clogs badly, the author advises cutting the patient at once by the median section upon the lithotrite, dilating the neck of the bladder and bringing out the jaws of the instrument in the wound of the perineum, where they can be cleared. It is safer to adopt this method than to forcibly attempt extraction through the urethra. The severe laceration of the canal which has ensued in such endeavours has ended in some cases fatally.

“Lithotripsy,” by Wm. H. Hingston, M.D., D.C.L., L.R.C.S.E., &c., Professor of Clinical Surgery in the Montreal School of Medicine; Surgeon to the Hôtel Dieu Hospital, Montreal.

After the complete and exhaustive discussion of this operation in the preceding article, it is a little difficult to understand why this additional essay should be introduced. It contains less in useful information than its predecessor, and what footnotes are found are simply references to what has already been depicted and described. The author appears to avoid studiously the term litholapaxy, and in its place substitutes the misnomer, or ambiguous expression, “rapid lithotripsy.” Several instructive illustrations of accidents in operating are given. With the exception of these interesting reports, we can say little for the article, which, like one or

two others, we have had occasion similarly to decry, is a needless reduplication of matter contained elsewhere.

"Injuries and Diseases of the Bladder and Prostate," by Reginald Harrison, F.R.C.S., Lecturer on Clinical Surgery in the Victoria University; Surgeon to the Royal Infirmary, Liverpool.

With one or two minor exceptions, this is an excellent article. It is well written, and as regards the various pathological lesions, little, if anything, is omitted. References are, however, not numerous, and the treatment here and there rather weak. Thus, under the section treating of Extroversion of the Bladder, no allusion is made to Thiersch's method, one which is adopted almost universally in Germany. Fig. 1,282, representing Wood's operation, is incorrect as regards the shape of the flaps. It is copied from "Ashhurst," but does not resemble the diagrams given by Wood himself in his original paper.

In discussing the subject of cystitis, the author speaks highly of the benefits derived from the use of what he calls "vesical pessaries." They are made of oleum theobromatis, containing either morphia or belladonna, and are introduced into the inflamed and irritable bladder by means of a specially adapted catheter. The best part of the article is unquestionably that relating to affections of the prostate. Mr. Harrison has made this branch of the subject a special study, and his views with regard, more especially to the early treatment of prostatic enlargement, are already, through his writings, well known to the profession. Concerning the treatment of cases where retention calls for operative interference, the author figures a trochar and canula by means of which he has tapped the bladder through the perineum. The operation is performed by introducing the trochar in the middle line of the perineum, three-quarters of an inch in front of the anus, and pushing it steadily through the prostate into the bladder, at the same time retaining the left forefinger in the rectum as a guide. A case in which the operation was successfully performed is detailed at length, and an interesting pathological result, consisting in subsequent atrophy of the prostate, especially noted. This phenomenon, the author also states, he has observed following the incising of a large prostate in lithotomy.

In an appendix the operation of prostatotomy, as practised by the author, is briefly described. Adapted for such extreme cases of prostatic enlargement as where the bladder is practically converted into an abscess sac, the operation is performed

by first opening the membranous part of the urethra from the perineum, and then introducing a probe-pointed knife along the prostatic urethra, and making a section of the obstructing portion of the gland in the median line. A drainage tube is introduced and maintained for some weeks so as to ensure a permanent fistulous passage through the gland. Subsequently a bougie is passed along the whole length of the urethra, and this is continued until the perineal wound heals.

We have only briefly alluded to a few points in this long and serviceable article of Mr. Harrison. It is one which cannot fail to be consulted without interest and profit.

“Injuries and Diseases of the Urethra,” by Simon Duplay, M.D., Professor of Clinical Surgery in the Faculty of Medicine of Paris; Surgeon to the Lariboisière Hospital, &c. Translated by Charles W. Dulles, M.D.

That the author has taken up over one hundred pages for the discussion of his subject is a sufficient indication of the elaborate treatment it has received. The article is most essentially French, as but little reference is to be found either to the teaching or practice of authors of other countries. Numerous illustrations accompany the text, and not in all cases of the very best, to wit, Fig. 1348, is almost indecipherable. The section upon Traumatic Lesions of the Urethra is very clearly and carefully discussed, as also that dealing with Vital and Organic Lesions of the Canal. The method of treatment which the author adopts for cases of epispadias is worth drawing attention to. The operation is divided into three stages, comprising—(1.) Straightening the penis. (2.) Formation of a new canal from the extremity of the gland to the neighbourhood of the epispadic opening, which should be let alone as long as the new canal is not wholly formed. (3.) Junction of the two portions of the canal. Each of these stages is elaborated in detail, but, as briefly given, they are sufficient to indicate the line of treatment, the real essential point of which is, in operating in a series of successive stages.

A few pages are devoted to the discussion of a branch of urethral surgery, but little treated of by the majority of authors—spasm of the urethra. Sir Henry Thompson, if we remember rightly, denies the existence of such a condition as spasmodic stricture of the urethra, recognising *per se*, however, its occasional coincidence with organic stricture. The author here defines two varieties of spasm of the canal—one *idiopathic* reflex in nature, and referable, as to cause, to disease of a neighbouring organ; the other *symptomatic* of an irritation of the mucous membrane of the urethra. It is also

In comparing the results of these various operations in different countries, it appears that America has had the most successes, attributable to—as believed by the author—the less poverty and intemperance which exists there among the women.

“Ovarian and Uterine Tumours,” by Charles Carroll Lee, M.D., Surgeon to the Women’s Hospital; Consulting Surgeon to the Charity Hospital, New York.

This is a concise and lucidly written article, but considering the present and growing importance of the subject and the nature of the work for which it was to form a part, we should have preferred to have seen something more exhaustive. We are hardly prepared to admit, with the author, the undeniable claim to priority of M'Dowell of Kentucky, in performing the first operation of ovariotomy. While he unquestionably deserves the highest praise for the number of cases he operated upon and the successes which followed, it is to Dr. Robert Houston, in 1701, that the merit of first attempting the operation is due. This surgeon’s case preceded those of M'Dowell by about a century. It is not, however, to these early pioneers that the real credit of modern ovariotomy is due, but rather to men of our own time who, by the aid of modern appliances, have proved both the extreme simplicity and safety of the operation. In ovariotomy the author still uses the spray, but it is somewhat difficult to determine in what way. Thus, in speaking of the requisites of the operation, it is directed to be used *before*, but not *during*, the operation, but in the detailed description of the operation no further allusion is made to it.

Battey’s operation, Tait’s operation, and Hysterectomy are briefly discussed.

“Inflammatory Affections of the Bones,” by L. Ollier, M.D., Professor of Clinical Surgery in the Faculty of Lyons. Translated by Chas. W. Dulles, M.D., Philadelphia.

In securing M. Ollier as the author of a paper on the above subject, the editor was insuring the certainty of a valuable contribution. No surgeon has perhaps a wider or more universal reputation in all matters pertaining to the various affections of the bones than the author of the present article.

Not only is M. Ollier a surgeon of vast clinical experience, but a laborious worker in the field of pathology and experimentation. The subject of his remarks on inflammatory processes in bone and on transplantation of bone, as derived from experiments on animals, are well known. For these reasons, therefore, and many others, no one more fitted could have been

selected to write this article, and we may add—after having read it—its execution fully justifies our high expectations. It is, as a whole, so good that any attempt, in the brief space at our disposal, to condense or give abstracts would tend rather to detract from than add to its general merit. We are, however, tempted to draw attention to one or two parts, not so much for the possible novelty of the author's conceptions of the diseases under discussion, as to convey some idea of the general scientific way in which the subject is treated. Thus, before discussing the inflammation of bone, a careful anatomical review is given of the various centres in long and flat bones, where growth is most rapid or functional activity most marked. In the case of long bones, M. Ollier has found out by experimentation that the greatest physiological activity is in that part of the connecting cartilage situated towards the diaphysis, and that here it is that pathological lesions are most likely to arise. This region he terms "juxta epiphyseal." He then proceeds to show its significance in connection with the various clinical symptoms to which, when inflamed, it gives rise. A particularly interesting section is that dealing with the influence of osseous inflammations on the growth of bones. Here, in a similarly lucid and instructive manner, the simple anatomical features connecting the relative rates of growth at the different epiphyses are first discussed; and then, by several carefully selected tables, it is shown how even tumours, as well as inflammatory processes, most frequently attack those epiphyses which most conduce to increase the length of a bone. Several diagrams are given to illustrate this portion of the text. The subject of necrosis concludes the article, and in it the author very forcibly shows the important part which the periosteum plays in the reproduction of bone. This is but a very fragmentary allusion to an article whose merits, to be properly appreciated, must be considered as a whole; and this we warmly recommend all interested in the subject to do.

We have already had occasion to congratulate Dr. Dulles on his excellent translation of a previous article. The present is equally well executed and deserving of similar commendation.

"Scrofulo-Tuberculous and other Structural Diseases of Bones," by Eugene Vincent, M.D., Professor Agrégé, Surgeon-in-Chief of the Hospital of La Charité, Lyons. Translated by Chas. W. Dulles, M.D.

The term which the author applies to the first of the diseases treated of is not a particularly happy one, and seeing that in his opening paragraph he acknowledges the similarity—

even identity—of scrofula and tubercle, the simple designation, "tuberculous affection of bones," would have been better. Apart, however, from the trifling question of nomenclature, this section of the article is a particularly lucid and instructive one. The pathological discussion of the subject is minutely gone into, and the purely surgical aspect—as concerns treatment—exhaustively dealt with. With regard to the latter, one or two points are worthy of special notice. The author speaks very favourably of an operation to which he has given the name "igneous arthrotomy combined with articular breaming and immobilisation." It consists in opening the joint with a red-hot iron, with a cutting thermo-cautery, or even with a bistoury, through the fungous masses. The joint thus opened is breamed with enormous cauterising irons until the fluids which escape from it are at a temperature which the finger cannot bear. The fungous growth having been cauterised, and the joint breamed, the surfaces are saturated with iodoform, the wound dressed antiseptically and immobilised with a silicate bandage. "The results obtained by this procedure," observes Dr. Vincent, "are very encouraging up to the present time."

The author dissuades from the performance of "arthroxesis," or scraping out a joint—not, however, we venture to think, on sufficiently good grounds. It is true it only too frequently fails, but the result, when successful, is far in advance of excision, for the subsequent growth of the limb is not impaired, and in the case of the knee-joint movement is sometimes obtained. Again, in the event of failure, excision can be performed with very little harm resulting from the previous conservative endeavour.

Concerning resections of the knee and hip, every endeavour should be made to procure a natural cure, the results of operations being by no means so satisfactory as where the parts remain untouched, and healing is brought about by conservative measures.

The other affections of bones treated are "Rachitis of Adolescents," "Osteomalacia," and "Fragilitas Ossium." The section dealing with Osteomalacia is a very exhaustive one, and in it the "Osteitis Deformans" of Paget is discussed. The author believes it to be a slight and benign manifestation of osteomalacia, and suggests the name "*Benign Hypertrophic Osteomalacia*" as a substitute for Paget's designation of the affection. Short paragraphs are devoted to certain osseous conditions specially described by the author, such as "Local Inflammatory Rachitis" and "Pseudo-Malacia of Inflamed

*Bones.*" Want of space forbids us doing more than calling attention to these conditions.

In conclusion, the article is a good one, and might almost have been written by M. Ollier himself; for, with him, in all his work, the author appears to have been intimately associated, and to him he frequently expresses his indebtedness.

"*Tumours of the Bones,*" by A. Poncet, Professor of Operative Surgery in the Faculty of Medicine of Lyons. Translated by Chas. W. Dulles, M.D.

The subject-matter of this article is clearly and concisely dealt with. No attempt is made at classification; each osseous affection receives separate consideration. The sections on exostoses and chondromata are particularly well wrought out. In discussing the latter, an illustration is given of a patient with a large tumour over the sternum. In the text it is described as a cystic chondroma, but, from the history of the case, before and after operation, we are much more inclined to class it among the sarcomata—terming the tumour rather a chondrifying sarcoma. In speaking of the treatment of pulsatile tumours of bone, the author advises compression of the main artery first, failing cure by this means ligature, and, as a *dernier ressort*, amputation. We should be inclined again to demur from the author, and advise in all cases primary ligation. The disadvantage of compressing is, that should it fail, the compensatory development of the collateral circulation would be only too likely to render the subsequent ligation of the main vessel futile, so that amputation would become necessary where a primary ligation might have effected a cure.

In malignant diseases of bone, the author recommends remote disarticulation rather than amputation in the continuity of the affected bone.

"*Orthopædic Surgery: the Treatment of Deformities,*" by Frederick R. Fisher, F.R.C.S., Assistant Surgeon to the Victoria Hospital for Sick Children, London.

This article is a good one, and in every way speaks of the complete knowledge which the author has of his subject. A clear definition is first given of what is strictly included under the head of "Orthopædic." "If," as the author observes, "it is to be considered as a separate section of our science, it is a speciality of treatment." Although dealing with deformities, such of these as are not dealt with by *subcutaneous* surgery do not belong to orthopædics.

The subject of clubfoot, which immediately follows, is particularly well discussed from every aspect; and we may note, in reference to treatment generally, the author very

it convenient to review each volume as it reached us (and they came out with great punctuality), and we are now confronted with three volumes, containing no less than 3,235 pages. Having already, however, devoted a considerable amount of space to the previous volumes, it is not necessary that we should do more than indicate in general terms the scope and character of the remainder.

As in the previous volumes, we find that the writing of the various sections has been committed to a large staff, among whom the names of many well known American authors are seen. But it is to be noted that some of the best known of these have done but a small portion of the work: *e.g.*, in the volume on Nervous Diseases we see that Weir Mitchell is responsible only for the article on Vertigo, and in the same volume the name of Hammond is conspicuous by its absence.

At the head of this review the contents of the volumes are briefly stated, and it will at once strike the reader that Dr. Pepper has wisely embraced in his system articles on subjects which are only too frequently ignored in text-books of medicine, and even in systems of larger size. We refer to such subjects as medical ophthalmology, otology, laryngoscopy, certain diseases of the genito-urinary organs, &c. These undoubtedly enhance the value of this work, rendering it more complete. There is, in fact, scarcely any subject on which a reader may wish to consult a work on medicine which he will not find discussed more or less completely, except, perhaps, one, to which we have drawn attention in a former review. In his desire to limit the articles to the practical aspects of medicine, the editor has not encouraged his collaborateurs to enlarge on the physiology of the various organs of whose diseases they are treating. We regret this, as physiology is a progressive science, and its bearings on practical medicine are becoming better appreciated year by year; while the great mass of busy practitioners have but little opportunity of keeping themselves abreast of this progress. Hence it would have been to their advantage to have had a brief *résumé* of the present position of our knowledge of the physiology of the various organs of the body prefixed to the special articles dealing with their diseases. In a few instances an attempt has been made to do this, but it is not general. Another omission we note is that of a section dealing with the various subjects included under the term physical diagnosis. Of course the methods of diagnosis are discussed in relation to separate diseases; but there is no attempt to gather these together in one section.

In the preface it was stated that the number of illustrations had been reduced to a minimum. Throughout the five volumes comparatively few illustrations are met with; but it strikes us at once as peculiar that the articles on the larynx and the nose are illustrated out of all proportion to the others, although many of the illustrations are by no means new.

The merits of the various articles vary considerably, as was to be expected—varying not only in regard to quality, but also in regard to literary excellence. And it would be easy to carp at the relative amount of space devoted to various subjects. But no doubt good reasons could be adduced by the editor, who must have found it difficult to apportion the space among so many diverse subjects and so many writers; and it may be stated generally that the work has been very well done, reflecting credit alike on Dr. Pepper and on the American school of medicine. It is not so elaborate as *Ziemssen's Cyclopaedia*, but it is perhaps on that account all the more suitable as a book of reference to the busy practitioner, who has not time to devote to elaborate monographs, such as make up the great German work. And it is in this fact that we see what appears to us to be the best *raison d'être* of this American system of medicine. For we have failed to detect in it enough that is peculiar to America, in regard either to disease or its treatment, to justify its appearance; and unfortunately we are labouring under a plethora of books, for to the production of new medical works there appears to be no limit. We can, however, heartily commend this work to the profession, as we feel sure it will take a good place among the standard works on the same subject.

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*The Refraction and Accommodation of the Eye and their Anomalies.* By E. LANDOLT, M.D., Paris; translated by C. M. CULVER, M.A., M.D. Edinburgh: Young J. Pentland. 1886.

ENGLISH readers owe a debt of gratitude to Dr. Culver, of Albany, for having placed this exposition of refraction and accommodation of the eye within their reach. The text runs as smoothly as if English were its native dress, and the fact that the translation has been performed under the author's supervision is scarcely needed as an assurance that this has been attained without sacrifice of accuracy or precision.

The work discusses the subject from three points of view. In the first chapter the eye is regarded as an optical instrument, as a combination of refractive media, and the course of

light through this dioptric system is traced. The chapter is elaborated with great care, beginning with refraction by a plane surface, passing on to refraction by a spherical surface, and working up to refraction by several refracting surfaces and the combination of three spherical refractive surfaces, so that the optical conditions of the eye are reached. The mathematical portion of the book has been restricted to this chapter, formulæ being discarded in those that succeed, while the author has so planned the work that the first chapter may be passed over by any one without necessarily risking failure to understand those that follow. In the second, third, and fourth chapters the eye is regarded from the physiological side. Refraction and its anomalies, as well as accommodation and convergence, are in turn exhaustively discussed in chapter second, the third and fourth chapters being devoted to a statement of the various means of determining these conditions. The concluding part of the book the author calls the clinical portion, in which anomalies of refraction are regarded from the view-point of an ophthalmological clinic.

We venture to think that, throughout, the book is really a remarkable exhibition of the possibility of combining a high degree of scientific accuracy with lucidity of statement. As an example from the physical portion we may take the pages on the numbering of spectacle glasses (pp. 68 to 77), in which the "unit of the new system"—the dioptry—is explained with great clearness, as well as the relation between the old and the new systems, or we may take the discussion of the mechanism of accommodation from the second portion (pp. 160-166). A still more excellent example may be found in this same part in the pages devoted to astigmatism. We have been unable to resist comparing Landolt's description of this anomaly of refraction and of its means of correction with that found in the classical work of Donders, greatly to the advantage of the former. The modified form of the well known diagram, illustrating this anomaly, which Landolt adopts, is a great aid in the understanding of what is generally regarded as a very difficult subject. The clinical portion, which occupies a third of the whole book, is full of careful explanation and suggestive clinical instruction, in illustration of which we may refer to the pages on orthoptic training for strabismus and the prophylaxis of myopia.

The work is admirably illustrated by numerous engravings, some of them coloured. It is not useful merely for specialists, but should be found in the library of every well informed medical practitioner.

*The Healing Art: or Chapters upon Medicine, Diseases, Remedies, and Physicians, Historical, Biographical, and Descriptive.* In Two Volumes. London: Ward & Downey. 1887.

THAN the history of medicine, there are few subjects of greater interest, both to the general and the professional reader, and there is probably no department of medical study with which practitioners of medicine are so little acquainted as the history of the progress of the healing art, and of the lives and opinions of the great men who have helped to bring it to its present state of advancement. The volumes before us constitute an attempt to present, in a concise and popular form, a *résumé* of the main events of medical history, and the book is evidently designed as much for the lay as the professional reader. The work, in our opinion, can have no claim to greatness, nor can it in any sense be regarded as authoritative, but most readers will find it to be one of very considerable interest, and we have no hesitation in recommending its perusal to any who desire a glimpse into the medical life of the past. The general style reminds us a little of the circulating library or of the popular encyclopædia, and here and there the diction is somewhat florid. In the arrangement of the subject-matter there is a want of that breadth of grasp which shows the relations between one age and another, and between the old mode of thought and the new, which is so essential to a thorough understanding of the history of any department of human activity. But perhaps this is not demanded or expected in a work such as the present, in which the elements of amusement and instruction are, on the whole, very successfully combined. The author has concealed his identity, but from anatomical slips here and there, and from opinions occasionally expressed on technical subjects, we incline to believe that he is not a member of the profession. These are the chief remarks of a critical nature which we feel inclined to make, and having made them we have again to say that a great amount of enjoyment and very considerable information will be obtained from a perusal of the volumes. The chapter on Ancient Medicine is very good, and the account of the royal touch for king's evil is very interesting. In his description of the plague of London, the author draws considerably from Defoe's *Journal* and from Thomas Vincent's *God's Terrible Voice in the City*. We think the articles on Cornelius Agrippa, Paracelsus, and Jerome Cardan are specially good. In many respects Paracelsus seems to have been about

as impudent a quack as the great Count Cagliostro, who furnished the text for one of Carlyle's best essays. And yet he did not live in vain, for from his time chemistry began to take its proper place in medical science. It is no doubt a defect in a history of medicine that names such as Morgagni, Lænnec, &c., should be dismissed in a few lines, whilst whole pages are devoted to deluded faith-healing fanatics like the princely Bishop of Sardica, and to gibbering, dandiacal courtiers, with their "sympathetic powders," like Sir Kenelm Digby. The second volume closes with a chapter on Contemporary English Physicians and Surgeons, and here again we miss names which might very well have been included in the list.

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*Pathological Mycology.—An Enquiry into the Etiology of Infective Diseases.* By G. SIMS WOODHEAD, M.D., and ARTHUR W. HARE, M.B., C.M. Section I—Methods. With 60 Illustrations. Edinburgh: YOUNG J. PENTLAND. 1885.

WE have much pleasure in drawing the attention of our readers to this volume, and we think that the profession owes a debt of gratitude to the authors for publishing in a handy and acceptable form a work on bacteriology. As they say, the details of bacteriological research can only be obtained by a laborious consultation of special treatises and scattered papers, mostly in a foreign tongue, and therefore as to the utility of such a work as the present there can be no doubt. The volume contains a full account of the methods of examination and of cultivation in solid and fluid media, and the illustrations, which are in colour, are very well executed. Not the least important part of the book is the full bibliographical list which has been appended, and which will prove of great service to workers in this field. The volume is likely to prove of considerable utility and we accept it as an additional token of the activity which at present prevails in the Scotch Metropolitan Medical School.

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*Surgical Operation Chart.* By L. HEPENSTAL ORMSBY, M.D., F.R.C.S.

THIS Chart is designed for the use of house surgeons, junior practitioners, and surgical dressers, and consists in an enumeration of the various instruments and appliances usually requisite for the performance of each of the ordinary major and minor operations in surgery. To house surgeons and dressers the Chart may not prove of such service, as to the

practitioner. For the former usually have to follow out and act upon the teaching of their chiefs, concerning which there is, now-a-days, far from unanimity either as to mode of operating or method of dressing. But the practitioner, who soon forgets the peculiar and technical details with which he was once familiar, cannot fail to find in this Chart much that will enable him to equip himself as efficiently for emergencies, as for operations requiring more time for consideration but with which he may be less acquainted.

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*The Present Status of Abdominal Surgery.* By N. SENN, M.D., of Milwaukee, Wis.

THE substance of this small pamphlet formed the address in surgery at the Thirty-seventh Annual Meeting of the American Medical Association, on Tuesday, 5th May, 1886, and is a reprint from the Journal of the Association, 29th May and 5th June, 1886.

The author's well known contributions to abdominal surgery, especially recently in reference to cysts and tumours of the pancreas, render a perusal of this pamphlet of peculiar interest and instructiveness. With the exception of such operations as deal especially with affections falling more immediately to the ovariotomist or the gynecologist, every other operation which has been employed, either for the relief or cure of intra-abdominal disease is briefly discussed. The most recent results are recorded; and from these and others, the author ventures certain conclusions as to the justifiableness and future prospect of any particular operation. For brevity and clearness, we know of no contribution on the subject which places before the profession, so valuable an insight into "The Present Status of Abdominal Surgery."

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*An Index of Surgery.* By C. B. KEETLEY, F.R.C.S., Senior Surgeon to the West London Hospital; Surgeon to the Surgical Aid Society. Third Edition. London: Smith, Elder & Co. 1885.

THAT this book has reached its third edition within the space of four years since the appearance of the first, is a sufficient indication that it has very efficiently supplied a need. So rapidly following the second edition, there is little to be said in addition concerning it. The author states in his preface that numerous minor additions and alterations have been made throughout the work, and every effort has been made to make room for new matter by eliminating what could be

spared of the old. Thus the author appears to be working on a wise principle, maintaining the book's original compactness, while at the same time increasing the quality of its contents. By, in this way, not increasing the bulk of the book, and yet introducing the latest knowledge of the subject, the author will be likely to continue to reap that success in the future which his book has so abundantly gained in the past.

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*Contributions to Surgery and Medicine—The Principles of the Treatment of Fractures and Dislocations.* By HUGH OWEN THOMAS. Part VI. London: H. K. Lewis. 1886.

THERE is much in this contribution to interest, but how much to instruct is not so certain. The author adopts views peculiarly his own, and in many cases these are opposed to the conventional teaching and practice of the day. Mr. Thomas is known to the surgical world, chiefly through the admirable splint which bears his name, and finds its chief use in the treatment of hip disease; but whether the somewhat novel views which he holds with regard to the pathology and treatment of fractures and dislocations will add to his reputation is, at least, doubtful. We certainly cannot commend his oblique insinuations upon the operation of osteotomy, and the wiring of separate bony fragments in recent injuries. The book contains many points of practice differing from the usually accepted régime. We commend the contributions to surgeons who, dissatisfied with their own results, may find in the practice of the author something better. Numerous cases are detailed, and woodcuts introduced, illustrating the author's special method of treatment.

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*The Mechanism of Indirect Fractures of the Skull.* By CHARLES W. DULLES, M.D., Fellow of the College of Physicians and of the Academy of Surgery of Philadelphia. Philadelphia: Wm. J. Dornan. 1886.

THIS is a carefully compiled little brochure, giving a very good account of the various theories held, from the earliest times, of fractures of the skull. Aside from the purely historical study of the subject, the author endeavours, by the aid of several illustrative cases and numerous diagrams, to support the so-called "bursting theory." The subject, though briefly, is ably and forcibly discussed, and the pamphlet will be profitably consulted, if not for anything original which it contains, at least for the very complete bibliography appended.

## MEETINGS OF SOCIETIES.

### MEDICO-CHIRURGICAL SOCIETY.

SESSION 1886-87.

MEETING IV.—10TH DECEMBER, 1886.

Dr. M'VAIL, *Vice-President of the Medical Section, in the Chair.*

DR. M'CALL ANDERSON read a paper on CASES ILLUSTRATIVE OF SYPHILITIC AFFECTIONS OF THE NERVOUS SYSTEM, and showed one of his cases. In introducing the subject, Dr. Anderson quoted the following sentence from a paper of Dr. C. R. Drysdale (*Brit. Med. Jour.*, 27th Nov., 1886, p. 1028):—"Diday—and in this opinion I am inclined to agree with him—considers that modern syphilis, as the present generation sees it, is in most cases a mild disease, generally curable enough; and adds, that but few cases are followed by visceral disease or affections of the nerve centres. He in no way disapproves of mercury, but recommends it only when severe outbreaks of the disease take place, in order to lessen their effects on the health. 'Mild' syphilis he treats without mercury." Dr. Anderson said that he would give cases to illustrate the following points:—(1) The fallacy of the view that few cases are followed by affections of the nerve centres. (2) That mild syphilis should not be treated without mercury, because it was often followed by visceral disease, probably for the reason that it had not been attacked at all, or only partially, by mercury. (3) That it was of the utmost consequence to recognise the syphilitic nature of nervous affections, because anti-syphilitic treatment often yielded brilliant results. (4) That the earlier the disease was discovered and treated the more likely was a cure to be effected, because syphilitic lesions were apt to give rise to secondary non-syphilitic irritative lesions of surrounding, and even of distant, parts, which could not be removed by anti-syphilitic treatment. (5) That while iodide of potassium often yields good results in the late stages of syphilis, mercury is, as a rule, much more reliable, and often succeeds when iodide of potassium fails. Indeed, he held that the influence of mercury over late was, on the whole, much more striking than over early manifestations.

The first six cases were specially meant to illustrate the frequency of syphilitic affections of the nervous system, all of them having been in Dr. Anderson's wards during last winter session.

(1.) Mrs. D., æt. 38, charwoman, admitted 2nd Jan., 1886, with a history of five weeks' severe left hemicrania, the pain also affecting the eye, the ear, the nose, and the jaw. She had also a stiff lower jaw. The points which indicated a syphilitic taint were these:—The pain was nocturnal, preventing sleep; the skin was of a dirty earthy tint; the inguinal glands were enlarged. Two years ago her hair fell out in handfuls. Three years previously she had a miscarriage at the seventh month, and a still-born child ten months before admission. On 5th January she was put on perchloride of mercury, gr.  $\frac{1}{2}$  daily by subcutaneous injection. On 19th January the symptoms had disappeared, and she left, having taken in all 1 $\frac{1}{2}$  grains.

(2.) Rob. C., æt. 36, engine-fitter, admitted 16th January, 1886. He had for two years lumbago and left sciatica, the pain at first limited to the back, and aggravated by movement. Eight years ago he had a hard chancre, followed by widespread eruptions, angina, and headache. Six months before admission he had another—on the inner side of the right thigh, left upper arm, shoulder, and left side of chest, which had left coppery cicatrices. The pain was nocturnal. On 18th January he was put on iodide of potassium, half a drachm three times daily. In less than 10 days all trace of pain was gone, and soon after he left.

(3.) Jacob B., 24, tailor, admitted 1st February, 1886. Suffering from right hemicrania of six months' duration, paresis of right side, and fits nearly limited to that side. The paresis of the right arm and leg was marked, and he had in them a sensation of pins and needles. There was complete anæsthesia, including the right side of the face and head. A needle-prick was not felt till the middle line was crossed. The arm and leg trembled on extension. The indications of a syphilitic lesion were these:—The skin was very dark, and covered with little cicatrices, with white centres and dark areolæ; there was a scar on penis; large glands in the groins. On right elbow was a scar  $\frac{1}{2}$  inch in diameter, white in centre, with coppery edges. The hemicrania was markedly nocturnal. On 8th February he was treated by subcutaneous injections of corrosive sublimate. He left on the 13th February without permission, having only got  $\frac{1}{2}$  grain. Even then he could walk fairly, and move the arm and leg with great freedom. The pain was nearly gone, and there had been no return of the fits.

(4.) Mrs. S., 27, housewife, admitted 7th April, 1885, with severe headache lasting 19 weeks, paralysis of the left side of the body, and of the face (incomplete) of one month's duration, and slight paresis of the right side of three days' duration. There was also anaesthesia, which came on with the paralysis, but the extent of it was doubtful, as her mental condition was very defective. The right eye was almost constantly closed, and the tongue, when protruded, deviated to the paralysed side. Pain in the head was very severe. The evidences of syphilis were :—She had had five miscarriages since the birth of her last child two years ago, each at from six weeks to two months of pregnancy. Pain in the head was nocturnal. On 8th April she was put on 10 grains of iodide of potassium, and  $\frac{1}{8}$  of a grain of corrosive sublimate three times a day. Under this treatment the pain and anaesthesia rapidly disappeared, the mental condition was restored, and motion on the left side gradually improved, especially in leg. On 28th April injection with Shoemaker's mercurous oleate (3*i* daily) was commenced. On 14th July she was put on citrate of iron and quinine, and tincture of *nux vomica*. Daily frictions were also applied to arm and leg. On 5th January, 1886, she was dismissed, the power of leg was almost restored, arm still a little weak.

(5.) John M., *sæt.* 45, old soldier, admitted 16th October, 1885, suffering from general weakness and loss of power of whole body, of three weeks' duration, headache, giddiness, and pain in left shin. Speech slow and hesitating. Sensation was found to be normal; ankle clonus was absent, but the knee-jerks were slightly exaggerated. The indications of a syphilitic lesion were these :—At 20 he had a single hard sore, followed by enlarged inguinal glands, and coppery eruptions all over the body. The skin was of a dirty sallow hue. On the upper part of the body there were numerous small cicatrices. There was a small cicatrix at the base of the glans, and the glands of the groin were distinctly enlarged. There was marked thickness over the left tibia. The pain in head and shin were markedly nocturnal. He was put on iodide of potassium, 10 grains, three times a day. In about a week the pains in head and shin were gone. On 20th November he left quite well.

(6.) James W., *sæt.* 40, labourer, admitted 30th June, 1885, with paraplegia almost complete, anaesthesia, loss of control over the bladder and rectum, and terrible bedsores, one on each ischial tuberosity and two over sacrum, very large and sloughing. The indications of syphilis were a very dusky

skin, cicatrices of circular outline and coppery edges at several parts, the most marked being the size of a crown near the anterior superior spine of ileum on left side. On 3rd July inunction with Shoemaker's mercurous oleate (3*i* daily) was commenced. 16th July, he could move his legs much better; sensation was nearly normal; the function of the rectum was restored, but incontinence of urine continued. The bedsores were treated as usual, and speedily healed. On 14th November he left the hospital nearly well, and a month later he walked a long distance to the Infirmary almost perfectly recovered, but only able to retain water a very short time. (This patient was shown, and it was interesting to note that the seat of the bedsores were indicated by depressed, coppery scars.)

(7.) J. H., *æt.* 43, admitted 3rd February, 1885. Symptoms of one month's duration, staggering gait, numbness of lower extremities, did not feel the ground properly, numbness of ulnar side of arms from elbows (especially right side), and of two fingers and half of the hands for one week; slight stiffness in knees; tightness across the stomach, and much flatulence, especially after food; at times a feeling of a band across abdomen; knee-jerk absent. He attributed his illness to the effects of a hot office. Ten years ago he had a single chancre followed by blotches on the skin and pains in the bones, which did not trouble him long. On 4th February there was applied *Ung. Hg. Ol.*, 3*i*; on the 7th he was treated by electricity, Leclanché's battery, 10 cells; and two drachms of the ointment were now used. On this date the numbness of the legs was gone, and that of the arms was a little improved. On the 19th the numbness of the arms was much less, and he walked well. The ointment was omitted for three days owing to salivation, and then only 3*i* per diem was used till the 19th, when a dram and a half was applied. The note on 28th April is that for some time he had been quite well, except a little numbness of right arm.

(8.) Wm. S., *æt.* 30, cooper, admitted 10th August, 1886, complaining of loss of power of left side of body. Three days before admission, when at Rothesay on a holiday, he retired to bed in his usual health. Next morning he was found by his landlady in a semi-unconscious state. It was some time before he completely recovered his senses, and then it was found that he was partially paralysed on the left side, and also that he had difficulty of articulation. On returning from Rothesay on the day of his admission, while laughing heartily at what a fellow-passenger was telling him, he became sud-

denly unconscious, and remained so for some time. On coming to himself he found that he was lying on his back surrounded by some of the passengers. On entering the Infirmary he complained of a "prickling sensation" on the left leg, and to a less extent on the arm. On examination there was found left hemiplegia, incomplete; also anaesthesia; he could not distinguish a hot from a cold sponge, nor feel the prick of a needle. There was severe pain in the right temporal and occipital regions. There was complete paralysis of the third nerve, also partial paralysis of the sixth on the right side, with double vision to the right of the middle line. Speech was much affected from paralysis of the muscles of articulation. In the right ear there was a cicatrix with adhesions in the posterior part of the membrane, due to old suppurative disease, there being a history of such from a traumatic cause. In the left ear there was some opacity of the membrane. But on both sides the nervous structures, were the parts essentially affected. (Dr. Barr's Report.) New symptoms gradually set in some time after admission. There was marked trembling of the left leg on exertion. The left knee reflex was markedly exaggerated, ankle clonus marked, tendon reflexes of left arm were greatly exaggerated. On wakening at night he often found the left hand firmly closed. The diagnosis was a gross lesion of right crus cerebri, with descending sclerosis. The indications of syphilis were the age (30) and the absence of other causes. He denied venereal affection, but there was a very decided scar on the penis, which he at first asserted was due to a burn caused by a red-hot iron, but afterwards admitted to be venereal. The pain in the head was markedly nocturnal.

The treatment was first by Shoemaker's mercurous oleate. After using it for three weeks, Dr. A. was surprised to find so little results. He then tried Ung. Hg., which was followed by rapid improvement, but the patient left before a fair trial could be made. The pain in the head was much relieved.

(9.) John A., *æt. 38*, seen on 31st August, 1886. "Between the 3rd and 5th August," says Dr. A. Brown, who carried out the treatment recommended, "Mr. A. experienced the first symptoms of his illness, a slight difficulty in pronouncing certain words. On the 6th August, on landing at Greenock after a sail on the river, he found himself unable to speak; but on arriving in Glasgow the power of speech had returned. For about ten days afterwards he felt an occasional numbness of left cheek and point of the tongue, and a distinct metallic taste. On the evening of the 16th August he suddenly suffered

from a choking sensation, followed by contraction of the left side of the face and loss of speech. He was quite intelligent at the time, but felt some confusion of mind. The power of speech returned in about an hour after this attack; but from the 17th till the 31st he became speechless four or five times. During all this time he was unable to make simple calculations, and could spell no words correctly, with the single exception of his own name. On the advice of Dr. Moyes, of Largs, he took iodide of potassium for a week, but derived no benefit from its use." When seen by Dr. Anderson, on 31st August, there was a little permanent aphasia as well as agraphia. He suffered from severe pain, chiefly in the back of the head, which came on after the aphasia. This pain was nocturnal. There was an ulcerated patch in one leg with syphilitic characters, and coppery scars in leg and one arm. He had a solitary sore on penis thirteen years ago. The treatment was by mercurous oleate. On 4th September he saw him again with Dr. Brown. The pain had been much worse for two nights, but the last two nights was much relieved. "In a very few days," wrote Dr. Brown, "after beginning its use" (mercurous oleate), "under my observation improvement in pronunciation and power of speaking set in. In three weeks all the symptoms had disappeared."

*Dr. Middleton* showed a patient suffering from syphilitic paraplegia. Mrs. M'N., aged 40, housewife, was admitted to the Western Infirmary on 6th October, 1886, suffering from myelitis or spinal meningitis (specific), affecting the lower limbs as regards both movement and sensation; also the bladder and rectum (involuntary discharges). Her illness began in June last with pain over the second and third lumbar vertebrae, a general feeling of coldness, with girdle sensation and occasional pains shooting down to the toes. The weakness of the limbs also dated from June, but inability to walk had been present only for three weeks prior to admission, when it was noted that she could put her feet to the ground when supported on both sides, but could not stand alone. In July the pain in the back disappeared, and was replaced by "coldness" and numbness in the hips and legs, followed by "prickling." In July she also began to lose control over the bladder and rectum, and prior to admission she was not always aware of evacuations. There were no bed-sores. Knee-jerk was much exaggerated, and ankle clonus was present in the right leg. There were also shooting pains and spontaneous jerkings of the legs in bed. The temperatures were normal. There was a previous history of headache in February, altogether apart

from the above symptoms; and on admission there was no evidence of cerebral disorder. There was a distinct history of syphilis contracted from her husband four and a half years ago. The treatment adopted was  $1\frac{1}{2}$  gr. of corrosive sublimate and 5 grs. of iodide of potassium thrice daily, with the galvanic current from the lumbar region down the limbs every day for ten minutes. By the beginning of November the girdle sensation and pain had entirely disappeared, and considerable improvement had taken place in the control of the evacuations, as well as in the power of locomotion and of sensation; and when she left, on 23rd November, she was able to walk, though unsteadily, partly owing to defect of vision, the eyes, according to Dr. Reid, presenting serious old specific lesions. When shown at the meeting she walked with a peculiar staggering gait, not that of ataxia; but she considered herself scarcely so well as when she left the infirmary, when the treatment was discontinued, owing to slight evidences of mercurialism.

*Dr. Coats* said that he had already seen the case shown by Dr. Middleton. His experience as a pathologist led him to think that there was less syphilis in Glasgow now than formerly. He saw comparatively seldom a case of admittedly syphilitic disease, and, as a consequence, the Museum of the Western Infirmary was comparatively poor in specimens of syphilitic lesions. His experience in the Royal Infirmary as pathologist was similar. He had not seen in Glasgow more than two or three cases of nervous lesion in definite connection with syphilis.

*Dr. Anderson* asked *Dr. Coats* whether he could nearly always identify such a lesion.

*Dr. Coats* replied that he thought so. He added, however, that there was a tendency to reckon a great many things as syphilitic which were not demonstrably so, and which, indeed, were, in not a few cases, attributed to that cause on no just grounds (such as locomotor ataxy, atheroma of the arteries, &c.) He did not agree with those who ascribed these things to syphilis. He would expect to find other evidences of the affection, if there were any connection between them.

*Dr. Middleton* had seen at the Dispensary of the Royal Infirmary a great many cases of nervous disease, but very few which he could with certainty ascribe to a syphilitic origin. Many cases of nervous disease were benefited by iodide of potassium and mercury, whether of syphilitic origin or not. In some recent works on diseases of the nerve centres this treatment was recommended altogether apart from the question of syphilis.

*Dr. Smart* said that he had come to the conclusion that

iodide of potassium was useless except when given after a course of mercury, and that then it acted by way of loosening and setting free the mercury in the tissues.

*Dr. Renfrew* complimented Dr. Anderson on the remarkable success of his treatment of these cases, which in itself betokened acute diagnostic powers.

*Dr. Pirie* asked whether Dr. Anderson's patients had previously undergone a mercurial course. Only on this supposition could he account for the remarkable effect produced by such small quantities of mercury.

*Dr. Murdoch Cameron* said that doubtless not a few of these cases had already been subjected to mercury.

*Dr. R. Pollok* said that the rapidity with which improvement had taken place after so small doses was very astonishing. One or two cases of paraplegia he had treated with mercury, with improvement in the case of the females. But the treatment occupied a long period.

*Dr. Jas. A. Robertson* said that he had himself seen, in Dr. Anderson's wards, several of the cases detailed by him, and could bear testimony to the success of the treatment. He would ask Dr. Anderson what treatment he would adopt in cases in which mercury could not be given. Dr. Robertson described a case seen by him in the Lock Hospital, in which there was phagedænic ulceration of the soft palate and of the labia, the vagina being completely occluded, with incontinence of the urine and faeces, &c. Mercury could not be given till the general health was improved by nourishing diet, when the administration of bichloride of mercury effected a rapid improvement.

*Dr. J. Lindsay Steven* said that in several of Dr. Anderson's cases the onset of the symptoms was quite sudden, and the previous history was apparently good. It would be interesting to know the exact pathological condition which resulted in such seizures. The progress of things in tertiary syphilis was usually slow. New formations were developed, most probably gummata; and the difficulty was to see how such processes should be going on, when suddenly there was developed an attack like an ordinary apoplectic seizure. One could understand it if there were some sudden blocking of a blood-vessel, in which case the result would be similar to that of an ordinary nerve lesion. He agreed with Dr. Middleton that mercurial treatment did good in cases in which there were good grounds for believing that there was no venereal taint.

*Dr. M'Vail* said that in his experience mercury was very variable in its action in syphilitic cases as far as nerve lesions

were concerned. He had seen the drug act like a charm in the early symptoms; even under a homoeopathic dose he had seen an iritis completely disappear. But this happened in a person peculiarly susceptible to mercury; and the result was obtained only at the expense of the loss of two teeth and a greatly swollen tongue. He had never before seen such a case of extreme salivation result from two grains of calomel. In nerve cases he had frequently failed to get relief either from mercury or iodide of potassium, while in other cases relief was obtained very readily. He had treated with mercury a case of paraplegia in a man whom he knew to be syphilitic, but without any improvement. One of Dr. Anderson's cases (No. 8) had been under his treatment for two months while he was in charge of Dr. Anderson's wards; he had treated fully with mercury, but without the slightest effect. He had seen large doses of iodide of potassium given for months without any good effect. The course of the disease, while under treatment, was occasionally very singular. Two years ago he had a patient under his care who had ulceration of the fauces, loss of the uvula, and perforation of the hard palate. A few doses of iodide of potassium were followed by an immediate improvement of the throat symptoms. But co-ordinately with this there came out on the cheek large pustules, which opened into large ulcers, these carrying away the true skin of the cheek; and yet all the while that this destruction was going on, the throat kept on healing. He tried the bichloride without the slightest effect for a fortnight. Arsenic caused an improvement, and the ulcerations healed up. The singular thing here was that while one syphilitic lesion healed, the other did not. Dr. Anderson had been most fortunate in lighting on suitable cases for the treatment.

*Dr. Anderson*, in reply, said that he held that mercury was not of the slightest use in such a disease as locomotor ataxy in its advanced stages. He held, however, that syphilis is the starting point in a great many cases, and that, if we got hold of such cases at the outset, we might obtain satisfactory results from anti-syphilitic treatment. As to Dr. Smart's observation, while he would not go the length of saying that iodide of potassium was of no use whatever, unless mercury had previously been given, he agreed with him that it was generally more effective when given after mercury. Dr. Pirie's question he could only answer by saying that none of his cases had been under mercurial treatment immediately before he saw them; whether they ever had been so he had no means of knowing. Dr. Pollok remarked on the smallness of the

quantity of mercury given, but he must keep in view that medicines given subcutaneously had a much more powerful effect than when otherwise administered. His reply to Dr. Robertson's query was, that in giving mercury, they did what Dr. Robertson aimed at by nourishing diet, in the case to which he adverted—they improved the general health. The variability of the effects of mercury had been spoken of, but it was not more variable in its action than other drugs—*e.g.*, salicin in rheumatism. Dr. Steven was doubtless correct in his conjectures, that in some of these cases of sudden seizure the lesion had compressed an important blood-vessel and produced thrombosis, the action of mercury was to take off the pressure, though in the case of a blocked blood-vessel it was doubtful whether it would restore its lumen. The object of his paper would be served if it stimulated inquiry into the antecedents of nervous lesions. To the statements of patients themselves as to their not having had venereal disease he would pay no attention. If in a case of gross nervous lesion they could not find any other cause, it would be well to give the patient the benefit of the doubt.

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### GLASGOW SOUTHERN MEDICAL SOCIETY.

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SESSION 1886-87.

MEETING V.—23RD DECEMBER, 1886.

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MR. T. F. GILMOUR *in the Chair.*

MR. JAMES JOHNSTONE read a paper on "THE ETIOLOGY OF 'HOUR-GLASS' CONTRACTION OF THE UTERUS." (See page 188.)

*Dr. Tindal* had seen a case of hour-glass contraction in which ergot had been given, but could scarcely be held as giving rise to that condition. The pains had been effective at first, but afterwards the uterus became inert; and the question arose whether ergot or the forceps should be used. The drug was administered with some effect, and in half an hour the child was born. External compression failed to expel the placenta. On introducing the hand, hour-glass contraction was found to have occurred; but the uterus soon relaxed, and the placenta was removed.

*Mr. Miller* had not met with a case of this irregular uterine contraction for a long time. He thought it due to ergot, which he only gave in uterine inertia.

*Dr. Malcolm Black* seldom saw hour-glass contraction now-a-days, and regarded ergot as its most usual cause. He had noticed that this irregular contraction has been less frequent since the introduction of Credé's method of removing the placenta. Another form of hour-glass contraction was described by Dr. Black. He had seen it in a few cases, and it is referred to by Playfair. It occurs during labour, previous to the expulsion of the child, and a firm ring may be found in the region of the internal os grasping the neck of the child. As a rule, however, it does not give rise to much obstruction.

*Dr. Park* homologated Mr. Johnstone's remarks on the theory of the causation of hour-glass contraction by ergot. He had seen three cases in which it occurred after the administration of ergot, and he had never met with it when that drug had not been given. He combined the method of compression with pressure in the axis of the inlet.

*Dr. Edmiston* had met with a case of hour-glass contraction that week which was complicated with adherent placenta. He had not given ergot in that case. He had observed four cases of hour-glass contraction of the uterus in which no ergot had been given.

*Dr. Pollok* ascribed the condition of the uterus under consideration to three causes:—(1) irregular contraction; (2) ergot; (3) pulling the cord. He thought it was also caused by fear of introducing the hand well into the uterus for the purpose of removing the placenta.

*Dr. Erskine* observed one case of hour-glass contraction of the uterus in which no ergot had been given, the labour having been hitherto perfectly normal. The contraction was easily overcome by introducing the fingers.

*Dr. Hamilton* found hour-glass contraction in one case where he had used ergot. He thought it best to wait on nature, and, when uterine inertia occurred, to apply the forceps rather than rely on ergot.

*Dr. Gilmour* thought that alcohol is a cause of inco-ordinate muscular contraction, and therefore a cause of hour-glass contraction of the uterus. For the last eight years he had made it his usual practice to set about extracting the placenta at once, passing one hand up to the base of the uterus and compressing externally with the other. He had observed hour-glass contraction occurring during labour, and remarked that this had been referred to by Schröder.

*Mr. Johnstone* replied, and explained that he did not mean to imply that ergot would only cause irregular contraction when it was not needed.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

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SESSION 1886-87.

MEETING II.—17TH NOVEMBER, 1886.

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DR. SLOAN, Pres., Chairman, exhibited an INDIA-RUBBER BAG AND ACCESSORY TUBES, the invention of Dr. Alex. Robertson, for fomentation of the uterus and vagina. The temperature of the water used should be from 110° to 115° and the duration of the fomentation half an hour. The President had used the apparatus with satisfactory result.

DR. ABRAHAM WALLACE exhibited a BLIGHTED OVUM, which old authors might have termed a mole. He considered the appearance of the exhibit closely resembled Playfair's case of ovimimal apoplexy (Fig. f., p. 278, vol. i, *Science and Practice*). In the present case, rowing, an unaccustomed exercise, was conceived to have been the cause.

DR. MALCOLM BLACK then read a paper on PUERPERAL ECLAMPSIA, embodying the results of observation of 39 cases. He mentioned that Lusk had met with one in 500 cases, Churchill one in 600. Four only of Dr. B.'s cases had been in private practice. His mortality had been one in 3½—12 out of 39. Some had been in convulsions a long time; one had peritonitis eight days *post-partum*; one had contracted pelvis, &c.

The disease occurred mostly in primiparæ, but Dr. B.'s cases number only 7 primiparæ to 37 pluriparæ. It was not usually recurrent. The seizure was usually at or soon after the onset of labour; but when prior to labour, the latter was speedily induced.

The prodromata were stated to be general anasarca, headache, albuminous urine, and vertigo.

The fit was characterised by complete loss of consciousness followed by two waves of spasm—the first being tonic and the second clonic. The muscles of the face and orbit were the first to become affected and the last to resume quietude. The fits were recurrent, the patient being in the intervals conscious, but ultimately the patient became comatose between the paroxysms.

The diagnosis was not difficult, as in hysteria the patient never lost consciousness.

As to pathology, the various theories of Frerichs, Rosenstein, Kussmaul and Tenner, and Macdonald were referred to. He instanced one case in which he had seen eclampsia induced by half an ounce of liquid extract of ergot administered for haemorrhage, and thought this favoured the theory of a toxic agent circulating in the blood. He thought the nervous erethism, mental distress, and relaxed condition of abdominal parietes, frequently present prior to labour, were important pre-disponents.

Touching the matter of treatment, he had had no experience of venesection, though he knew it had been reported to have yielded strikingly good results in congestive, uræmic, and spasmodic cases. In uræmic cases he leaned to purgation and pilocarpine; but his main reliance was upon the continuous administration of chloroform; though he thought the new remedies, amyl nitrite and glonoin, might give good results. He advocated the induction of labour, as it appeared to him that the foetus acts as an irritant. Of seven of his cases, delivered by means of dilatation with Barnes' bags and turning, six recovered. Speedy delivery, in fact, was most important. Care must be observed not to give ergot after the labour, but chloral.

*Dr. Purk* gave his experience of two cases, and advocated venesection in all cases not plainly anaemic, and the rapid delivery of the patient. He thought the occurrence of albumen in the urine should not be regarded too seriously, *per se*, and uttered a warning against the use of pilocarpine when evidence of advanced renal disease was present.

*Dr. Murdoch Cameron* thought that about 30 per cent of the cases occurred before, 30 per cent during, and 30 per cent after labour. Eight out of ten cases occurred in primiparæ. He hadn't much faith in venesection, but leaned upon chloroform, rapid delivery, and cold to the head. His experience had led him to suspect syphilis as a predisponent.

*Dr. Halket* had attended 3,000 cases of labour and had never had a case of eclampsia. Had attended four cases outwith his own practice. All got well, having had their heads shaved and cold applied.

*Mr. Thomas Gilnour* could not agree with the mental distress theory as a predisponent. His proportion of cases had been 1 in 1,000. In two cases he suspected syphilis as a cause.

*Dr. W. L. Reid* agreed that rapid delivery was a necessity, but insisted that it should be set about with caution and

deliberation. He preferred manual dilatation of the cervix. Amyl nitrite, he thought, would prove to be of use in those cases occurring some time after labour.

*Dr. Robt. Pollok* had seen seven cases—four in his own and three outwith his own practice. All save one occurred *post-partum*. Albumen was present in the urine in all the cases. He founded his diagnosis on this fact. His first case died. She was not bled. His next two were bled and recovered. His subsequent cases, being anæmic, were treated by means of pilocarpine in heroic doses and chloroform—benzoic having been given as a prophylactic.

*Dr. Abraham Wallace* had seen a good number of cases, and was inclined to think mental distress was an important factor. Touching exciting causes, all theories were defective. He had observed eclampsia absent, for instance, in cases where ana-sarca was abundant.

*Dr. J. K. Kelly* had experienced six cases in 2,800 labours, or one in 470. His cases all occurred just at the conclusion of labour. He believed in rapid delivery, of course judicially. He preferred manual dilatation and forceps. He applied ice to the head and administered chloral. Had seen benefit from pilocarpine in chronic Bright's disease. He thought Traube's theory of the pathology the correct one.

*Dr. Miller* said his cases occurred anterior to or at the inception of labour. He chloroforms, induces labour, and administers 60 grs. bromide of potassium. Whether he bleeds or no depends on the case and the time when. Kidd bleeds in plethoric cases, but thinks these are very few. Where stupor is present, of course anæsthetics must be avoided. Madden relies mostly on bleeding, whereas Atthill is against bleeding.

*Dr. Sloan* had only experienced one case in private practice, being one in 3,000. Has noted that not a case is recorded during the discussion *where albumen was absent*. He attributes the disease largely to the fact of the nervous equilibrium of the female being upset in pregnancy. Lays stress on the element of mental distress when superadded to this. Doubtless individual temperament is largely concerned in etiology also. As illustrating this, he referred to Dr. Brock's paper on "Sickness in Pregnancy." He narrated a high pulse case, where renal disease of an advanced kind led to death *post-partum*, but where no eclampsia had appeared. He recalled the teaching of the late Professor Pagan, which was to the effect—"Empty the uterus as fast as you can or as much as you can."

**ABSTRACTS FROM CURRENT MEDICAL LITERATURE.**

**Alcoholic Ataxia.**—This case is reported by Dr. Barbe, and concerned a woman, 41 years of age, who had been addicted to the abuse of rum, chartreuse, and absinthe. After a time she began to suffer from gastric symptoms, with pain in stomach; and later, from formication in the fingers and toes, pain in the legs, and tremors of the muscles, ultimately losing control of the muscles of the legs. When admitted to hospital there were all the signs of inco-ordination met with in locomotor ataxia, with complete absence of the knee-jerk, while sensibility was intact, and there were neither girdle sensation, lightning pains, nor ocular symptoms. She was treated by nitrate of silver and belladonna, and sulphur baths. Contrary to expectation she recovered, signs of improvement occurring after about three months, and in the fourth month she was able to leave the hospital. At that time she could walk all right, but the knee-jerk was still absent, and there was still some formication in the fingers and a little tremor of the hands. Dr. Barbe considers this case comparable to cases of ataxia after diphtheria, and poisoning by sulphide of carbon, ergot of rye and lead.—*La France Médicale*, 23rd May, 1885.

**Arthropathies associated with Infantile Paralysis.**—Having in view Charcot's statement that the joint affections of locomotor ataxia are probably due to extension of the cord lesion to the motor cells in the anterior cornua, along the internal radicular fasciculi, and Dr. Barlow's observations on joint affections liable to be mistaken for rheumatism in the early stages of infantile paralysis, Dr. Coutts records two cases of infantile paralysis occurring in male children, respectively 16 and 11 months old, in which, at an early stage of the affection, the ankle joint of the affected side was the subject of a lesion. The joint was swollen, but not tender, and the condition persisted for six weeks without growing worse, ultimately leaving no trace of its presence save extreme mobility of the joint. In neither case could the strictest enquiry elicit any history of injury. Dr. Coutts believes that the following points prove that the lesion was not rheumatic:—The extreme youth of the patients, the absence of local tenderness and redness, the course of the disease, the long local-

isation in one joint, and the absence of complication of others. The following reasons seem to indicate that the joint lesion was of spinal origin, and due to the same exciting cause as the paralysis:—(1.) The lesion took place on the affected side, and was strictly limited to the region presumably in relation with the same part of the cord as the paralysed muscles. (2.) The date of origin, probably the same as that of the paralysis, coincided with the supposed acute stage of inflammatory changes in the cord. (3.) The progress of the affection was the same as that of many others observed during the course of other spinal affections. Dr. Coutts suggests that careful observations should be made on cases of infantile paralysis, to see if this affection of joints is not really a common thing, and whether muscular wasting is not more rapid in the cases in which the joints are involved.—*Med. Times and Gazette*, 18th July, 1885.

**Unilateral Hallucinations.**—At a meeting of the New York Neurological Society, held on 1st December, 1885, Dr. Wm. A. Hammond read a paper giving details of four cases with reference to others recorded by other observers. The first two cases are referred to in his own work on *Insanity*.

*Case 1.*—A gentleman, in good general health, with apparently healthy auditory organs, contracted the illusion that the ticking of a clock on the mantelpiece consisted of articulate words, giving various commands, which he recognised as hallucinations, but nevertheless allowed to influence his actions. They were audible to the left ear only.

*Case 2.*—A young lady, perfectly sane, but of delicate physical organisation, saw numerous faces, some with one eye, some with the other. “By imitating the experiment of Sir David Brewster, pressing on the outside of the globe of either eye so as to produce temporary strabismus, the patient could make any face appear double.” Her eyes were normal.

*Case 3.*—A young man, after a blow received just over the left ear, became subject to a hallucination of the vision of a black cat, seen with the left eye only, the image being larger and more distinct in the evening, and during frequent paroxysms of pain at the seat of injury. No other symptoms of cerebral injury were present, but Dr. Hammond believed that the inner table of the skull had been fractured. The patient refused surgical treatment.

*Case 4.*—A lady, about 50 years of age, became the subject of most malignant persecutions through anonymous letters,

the sender of which she did not know. While thinking of who the person could be that sent these, she happened to look out of the bay window, and saw a man and woman standing in the opening. For a moment she did not doubt the reality of the appearance, but when she arose, they gradually faded from view. Afterwards they reappeared several times in the month, and finally ceased. The interesting feature of the case was that the man was always seen with the right eye, and the woman with the left; if she closed the right eye she saw only the woman, but if she closed the left, she saw only the man. The vision could be brought on by lying down with the head low. "Dr. Hammond thought nothing could be more confirmatory of the idea of the independent actions of the two visual centres than such hallucinations; indeed, he thought they were strong evidence of the duality of the brain. None of the cases he had cited went to support the view that unilateral hallucinations were due to disease or special derangement of the organs of special sense involved. Indeed, it was difficult to conceive what connection could exist between disease of the eyes or ears, and a hallucination existing in the corresponding side, for if such disease caused a unilateral hallucination, we shculd expect bilateral hallucinations to be the result of disease of both eyes or ears. Dr. Hammond thought hallucinations were produced by disease or disorder of the central organ of perception, probably of the optic thalamus, and that such erroneous sensorial impressions, when limited to one side, were evidence that the visual, auditory, or other sensorial centre of the corresponding side, was the starting point."

In the ensuing discussion, Dr. L. Weber related the case of a young man who, during two years of domestic trouble and mental strain, was the subject of auditory hallucination. On going to bed he would be unable to sleep for two or three hours because of whispering noises, growing louder and louder, heard in the left ear, and of two kinds, one soothing, and another demandatory. Five years ago, when patient's circumstances changed for the better, the hallucination disappeared, and had not returned.

Dr. E. C. Spitzka believed hallucinations had their seat in the cortex. The optic tract and thalamus might have undergone secondary atrophy, following enucleation of both eyeballs, yet the person would be capable of having hallucinations.

Some of the cases showed the exercise of mental qualities, which could have their seat nowhere else than in the cerebral cortex. A hallucination was something which had been

previously registered in the memory, and which was projected outwards.

Dr. M. A. Starr noted that cortical irritation produces hallucinations in meningitis in which the optic thalamus is not implicated.

Dr. Sachs questioned if excitation of the cerebral cortex could give rise to an image of hallucination, except by revival of an image registered by antecedent peripheral excitation.

Drs. Corning and Heitzman believed that irritation at any point of the track leading from a sense organ to its special centre, could revive a previously registered sensation at any time.

Dr. Hammond, replying, said he believed a person could have hallucinations without an optic thalamus at all, provided he had a cortex; but he believed also that he could have hallucinations without any cortex, provided he had an optic thalamus. In the former case the hallucinations would be due to the revival of past impressions; in the latter case they would be original, having nothing to do with former associations. A man without an optic thalamus could have an idea of a cat in the abstract, but he could not have a hallucination of a particular cat unless he had an optic thalamus. He believed that ideation resided in the cortex.—*Boston Medical and Surgical Journal*, 7th January, 1886.—D. M.P.

**Weighted Shoes in Locomotor Ataxia.** By Allan M'Lane Hamilton, M.D., New York, in *Boston Med. Surg. Journal*, for 21st January, 1886.—"Those of us who are in the habit of seeing locomotor ataxia, especially in its second and third stages, have our sympathies taxed to their utmost by the helplessness of the tabetic patient, and his difficulty of getting about. There is very little to be done at best, and for this reason the case seems sadder than ever.

"For such ataxias I have been in the habit, during the last four or five years, of suggesting a simple mechanical device, which has done so much good that I think it worthy of publication. I allude to weighting the anterior part of the feet. Many ataxics whose locomotion was exceedingly difficult and distressing, have worn their weighted shoes constantly since I ordered them, and have led far happier and more comfortable lives.

"Those at all familiar with the peculiar gait of the ataxia, know that there is more or less weakness of the peroneus longus, and a failure to act against its opponent, the tibialis anticus, which is strongly contracted. Buzzard and Jackson first called attention to this explanation of the

disorderly walk, which largely depends upon what the former calls the 'over-movement of the associated muscles.' The use of properly adjusted toe weights serves two purposes—*first*, to overcome the tendency to violent hyper-flexion; *secondly*, to create an exaggeration of subjective consciousness of movement and location. The loss of plantar tactile sensibility is compensated by the perception of weight. In some cases, with the adjusted weight it is possible for the patient to walk in the dark, which, under other circumstances, he could not do.

"The weight, which should not be so great as to produce fatigue, may consist of a leaden insole, or of a plate fastened between the soles. A few experimental trials will enable the physician to determine just how much lead is needed, and where it should be placed. For those cases which last some time, the degree of comfort is sometimes very great, and the patient's gait is less apt to attract the attention it would otherwise, thus saving him much mortification, and giving him greater confidence."—D. M'P.

**Function of the Corpus Callosum.**—From observations on the case of a young man who died of haemorrhagic cerebro-spinal meningitis, the corpus callosum being found almost completely destroyed, Erb (*Arch. f. Puth. Anat. u. Phys.*, Bd., xcvi) concludes that almost the whole corpus callosum may be destroyed without producing the least alteration of mobility, co-ordination, sensibility, reflexes, or speech, and without causing any notable disturbance of the intelligence.—*Rev. des Sci. Méd.* No. 53, 15th Jan., 1886.

**Two New Cases of Amyotrophic Lateral Sclerosis, followed by Autopsy.** By J. M. Charcot and P. Marie. *Archives de Neurologie*, vol. x, p. 1 to 168.

The essentially systematic nature of amyotrophic lateral sclerosis is admitted by the great majority of writers, and the special localisation of the lesions in the cord and medulla oblongata is very well known. During the past few years the question has made further progress. The lesion of the pyramidal tract in the whole of the segment of the cerebro-spinal axis situated above the medulla is now an absolutely demonstrated fact. It was in the peduncles that this lesion was first observed, and it has been observed in the pons. Kahler and Pick noted a certain atrophy of the motor convolutions, and they emitted the opinion that this diminution in volume was probably an indication of degenerative lesions of the same order as those which exist in the other points of the pyramidal tract. Kojewnikoff, in 1883, demonstrated in the white sub-

stance of the brain the existence of numerous granule cells situated in the course of the pyramidal tract. In the two cases described in this paper the presence of granule cells in the different parts of the intra-cerebral course of the pyramidal tract was distinctly proved. The demonstration is, then, now complete: not only is amyotrophic lateral sclerosis strictly localised to one system, but it affects the whole height of that system, from the large pyramidal cell of the cortex to the large cell of the anterior cornua of the cord, whence it finally extends as far as the peripheric muscular element.

The following are the summaries of the two cases:—

**CASE I.**—Commencement by rigidity of the left leg. Six months after, paresis of the right arm. Slight difficulty of speech. Two months later, atrophy of the right thenar eminence; augmentation of the troubles of speech. Then complete paralysis with spasmoid phenomena, which afterwards disappear. Augmentation of the atrophy of the hands. Troubles of deglutition, respiration, and circulation. Death a year from the onset. Granule cells in the whole extent of the pyramidal tract, comprising the motor convolutions. Disappearance of the large pyramidal cells of the cortex.

**CASE II.**—Onset by difficulty of speech and of deglutition. Four months later, an apoplectiform attack, followed by an increase of the bulbar troubles. Paresis, then atrophy of the superior extremities. Paralysis of the inferior extremities with spasmoid phenomena. Death two years from the commencement. Granule cells in the whole extent of the pyramidal tract, comprising the motor convolutions. Diminution of the number of the large cells of the cortex.—R. S. S.

**Gonorrhœal Rheumatism.**—Loeb is of opinion that gonorrhœa is only complicated by rheumatism in those cases in which the gonorrhœal process has attacked the hinder portions of the urethra, and in favour of this view he adduces the two facts, first, that the rheumatic symptoms never occur in the early stages of the gonorrhœa, and, secondly, that in the great majority of cases the rheumatism is never seen at all during the first attack, but only after subsequent attacks, when the posterior parts of the urethra are almost certain to be involved. As to the disputed point whether the rheumatism is to be considered as a disease *sui generis*, or as merely an ordinary rheumatic inflammation of the joints, predisposed by the gonorrhœal infection, he comes to the conclusion that *polyarthritis rheumatica* and gonorrhœal rheumatism are two perfectly distinct diseases, and he bases his conclusions on the following grounds:—(1) The difference in the relation of the

fever to the local changes in the two diseases; in ordinary rheumatism the fever and the joint affection generally running hand in hand, whereas in gonorrhœal rheumatism the fever is always slight and in most cases is almost, if not entirely, absent. (2) The difference in duration of the two processes, the gonorrhœal rheumatism running a much longer course. (3) Gonorrhœal rheumatism is much less erratic in its character than ordinary rheumatism. (4) The frequent association of gonorrhœal rheumatism with inflammation in the eyes, this inflammation, according to him, occurring sometimes without contagion, and being simply another local expression of the gonorrhœal affection. (5) The less frequent implication of the heart in gonorrhœal rheumatism. (6) The greater tendency to inflammation of the sheaths of tendons and synovial sacs generally in gonorrhœal rheumatism. (7) And lastly, the difference in behaviour of the two processes towards the salicylates. Loeb thus considers the gonorrhœal rheumatism as an infectious process, the seat of infection being the hinder parts of the urethra; and this view receives apparent support from the recent discovery of a specific organism in the gonorrhœal secretion, the gonococcus. Some doubt, however, still exists as to the specific character of this organism, and hence Loeb is more inclined to think that the cause of the infection will be found in non-specific organisms, examples of whose action in producing inflammation in joints we have, according to him, in the rheumatic affections of the joints which sometimes occur during the puerperium, also along with bronchiectasis, scarlet fever, and dysentery. As to the treatment, it is especially important as quickly as possible to cure the inflammation in the urethra, and especially of the hinder parts.—(*D. Arch. f. klin. Med.*).—Quoted from the *Canada Lancet* for September, 1886, page 18.

**The Etiology of Hydatids of the Liver.**—Von Mosler relates the following case:—He had a child suffering from a hydatid tumour of the liver of large size. The child's father was a butcher, and killed mostly calves and sheep. In these animals he often found large cysts filled with water. These were thrown to the dogs, which also at the family meal times were in the habit of licking the plates. The patient played a great deal with the dogs. On this case the author comes to the conclusion that the prevalence of hydatid disease as an endemic affection in Pomerania is largely due to the close relationships existing between the men and the dogs.—(*Deutsch. Med. Wochenschrift*, No. 32, 1886.) Quoted from the *Wiener Med. Wochensch.*, 1886, page 1290.

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ORIGINAL ARTICLES.

CEREBRO-SPINAL FEVER.

By ANSTRUTHER DAVIDSON, M.B., SANQUHAR.

I DEEM this case worthy of record, not only as illustrative of a disease rare in this country, but because it presents features almost unique in character and of great interest to the physician and psychologist.

W. D., age 30, a hard working and very intelligent carpenter, in robust health, had, after a severe day's labour, returned as usual at 6 p.m., dined, and while making some purchases in a shop in town two hours after, suddenly felt severe pains shooting into his head and limbs. He immediately felt faint, called for water, and dropped into a chair quite unable to speak or swallow.

When I saw him, 10 minutes after, he was quite collapsed; pulse 70, very soft and feeble; face deathly pale; skin cold and very moist, with profuse perspiration. He was quite unable to speak, though (as he detailed two days after) he heard and fully understood what was said. In about half an hour he was able, with assistance, to stagger into bed. He complained of intense pain in the head and neck; the perspiration increased, and he vomited freely some indigested food. After this he felt somewhat better, but was unable to walk home. When removing his clothing he again vomited freely. Pupils were normal; tongue clean. As I did not then consider

the case serious, I ordered bromide draught, to be followed by a saline purge.

Next day his tongue was dry and brown, changing to black in the centre, but quite smooth and unfurred. He had spent a restless night; vomited freely, and was frequently delirious. Pulse 66. Temperature—morning, 99°; evening, 100°.

The head was considerably retracted; intensely painful; and the nape of the neck presented a swollen and congested appearance, particularly on the right side. As the nature of the illness had now manifested itself, I leeched the neck.

*30th October.*—Under the influence of bromide he slept half the night, and now feels much better. The pain is less severe, and the tongue slightly moist at the tip. Pulse 60; temperature, 99°; evening, 100°.

*31st October.*—Was more restless last night, but seemed fairly well. Pulse, 84; temperature, 99°. In the evening the pulse was 54 and somewhat irregular in force. Temperature, 98.8°. Pupils normal, but left more sluggish than right, and diplopia, he avers, exists. He answers questions rationally, and seems to understand all that is said. Sometimes, however, he seems to wander.

*1st November.*—Slept well and looks improved. Pulse 60; temperature normal. Tongue moist throughout. Bowels constipated.

*2nd November.*—Pulse—morning, 60; evening, 78. Temperature—morning, 99°; evening, 101°. Tongue has become dry. Pain over vertex and at nape of neck more severely felt.

*3rd November.*—Delirious throughout night. Eyes congested, but tolerant of light. Pulse—morning, 72; evening, 84. Temperature—99.6°; evening, 100.4°. Morphia substituted for bromide. The next day pain was complained of in hypogastric region, the muscles over which were tense and tender on pressure, and on the day following pain was complained of over the spine opposite. During the day he became very excited and forced his way out of bed. Pulse 96; weaker.

*6th November.*—When not under the influence of morphia he could not be retained in bed, so was allowed to walk about the room. He seems quite unconscious, and only recognises his brothers in a vague way.

*7th November.*—He was very excited and restless all night, but during the day was quieter, and there were then first observed a few bright red spots like those of measles, not raised above the surrounding skin and disappearing on pressure. These occupied the anterior surface of the wrists,

knees, and upper arm. The elbows showed a uniform bright red blush, probably due to friction. The spots varied in size from a split pea to a threepenny piece, and with the exception of a very few on the abdomen, were entirely confined to the parts mentioned. Among those on the arm, about a dozen are petechial and of the size of a split pea. His temperature could not be taken, but skin felt cool. Tongue moist. Bowels very costive. He gives no rational answer to any query, and, though speaking continually, his words are almost always unintelligible and his meaning entirely so.

The following day the rash began to fade, and two days after all the spots not petechial had completely disappeared. The abdomen had become less tense and painful.

*11th November.*—As he had now sunk into that condition of purely organic existence without any trace of rational power, in which he remained for a considerable period, it may be of interest to record in detail his usual daily actions.

On awakening each morning, he lies for a few minutes looking about, then gets out of bed, micturates, using the chamber pot; then washes his face and hands, dresses, and attempts to leave the room. As the door is locked, he usually attempts to unfasten it, frequently attempting to break it open by using a candle, or any such object, in lieu of a chisel. This proving futile, he begins to work about the room as if at his daily labour (carpenter), either driving nails or papering the walls, using either his own or his attendant's hand as a hammer. When wearied he sits down, close to the fire, and after a rest begins work again and continues till fairly overpowered with fatigue, when he drops into his chair and falls asleep. All this time he is talking, or more correctly, swearing continuously, and seems not to understand one single word that is spoken, nor will he be at any time induced to sit down until overcome with fatigue. If food is offered, he pays no attention, but on seeing the cup he usually drinks its contents quite greedily. He seems to have no sense of taste, and swallows his medicine, iodide of potash mixture, with apparently as great relish as his beef tea.

If a book is offered him wrong end uppermost, he at once turns it, and may look at it a little while, but does not read any. He was a heavy smoker when in health, and now he takes a spoon or any such object into his mouth, and, after attempting to light it either with the candle or by his handkerchief, stocking, or paper first thrust into the fire, he sits and puffs away for some time. He lacks sensation in his fingers, sometimes picking up a live coal to light his pipe with; and,

though slightly burned, he seems to suffer no pain. Occasionally he becomes irritable and somewhat furious if thwarted in any way. Only a very few words are ever intelligibly spoken.

When his bowels incline to move he seeks out a corner of the room, as if for privacy, and shows no desire to use the chamber utensil; but when it is presented to him he uses it quite rationally. His every action is simply and purely automatic.

Physically he is in good flesh. His expression is natural, but devoid of expression save that of surprise or curiosity on the appearance of a stranger. His eyes are natural in lustre; pupils slightly dilated and sluggish. Tongue clean and moist. Bowels constipated. Digestion seems very good, as food is taken in fair quantity. There seems considerable thirst, if the desire for water is taken as an index. Urine scanty, uratic, and deposits large quantity of nitrate of urea on the addition of nitric acid, but shows no albumen. Patellar tendon reflex absent in both limbs. Pulse very variable, varying from 60 to 45. Temperature normal or nearly so. Breathing low and regular. The above being in general his every-day history for the next few weeks, it is only necessary to note the variations in the bodily and mental symptoms as recorded in the journal:—

*14th November.*—Staggering slightly in his gait; complains of pain in his legs. The chin can now be brought to almost touch the sternum. He seems to have no pain in the head.

*23rd November.*—Patellar reflex natural in left; still absent in the right. He cries pitifully sometimes, as if in great pain.

*6th December.*—Gait more unsteady; legs cedematous. He is beginning to lose flesh. Refuses to go to bed, and sleeps mostly in his chair.

*14th December.*—For the previous few nights he has slept without having recourse to any hypnotic. The cedema is less marked; but his legs, from close sitting over the fire, show very distinctly the melanopathic markings.

*21st December.*—A troublesome cough, with purulent expectoration, has supervened.

*24th December.*—He was seen by Professor Gairdner to-day, and his condition was, in almost all respects, similar to that detailed on 11th November. Dr. Gairdner tested his sense of smell; but, beyond demonstrating his distaste to snuff, nothing satisfactory was elicited. The reflex in the left leg is exaggerated, and has now appeared slightly in the right. The cremasteric reflexes are very active.

There is a marked insensibility to pain, both deep and superficial, the latter apparently all over the body. Hands and feet still insensible to heat; the legs are, in fact, all blistered with the heat of the fire.

*10th January, 1886.*—Appetite ravenous. Body in general, and legs in particular, hyperaesthetic. He is very sleepless, and with the hypnotic (bromidia) sleeps but three or four hours in every twenty-four. His speech is appreciably plainer, his oaths are more pointed, and he occasionally is understood to ask for food. Last night, after gazing at his œdematos legs, he remarked, "They are awfully big," the first intelligible remark he has made. The sensation of taste is apparently returning, as he sometimes objects to his medicine.

*16th January.*—His mind seems somewhat less clouded; he recognises more clearly the use of any article, and now lights his pipe (an ordinary one) with a match, which he signs and asks for, but cannot name. He is at times irritable and threatens his attendant, but these attacks are of short duration. On being asked who had dressed his blistered limbs a few days previously, he pointed to me, saying, "He did it."

From the 17th to the 27th he was almost unmanageable, yelling like a madman. He tried to break through door and window; the latter having been twice broken, had to be boarded up. Morphia injections of 1 to 2 grains were required to procure rest.

*28th January.*—After a good night's rest he awoke with apparently recovered consciousness, and began to detail in a rambling, almost incoherent manner, the details of his seizure. The last thing he remembered was the application of the leeches to his neck on 29th October. He can pronounce but a few words distinctly; but when the correct ones are suggested he nods in approval.

*1st February.*—Improving mentally and bodily. Understands what is spoken, and he says he knows he pronounces wrongly, but "cannot get his tongue round them." The vowel sounds he pronounces fairly well, but the consonants are apparently impossible. He can write his name very plainly. He complains of a muddled and pained head and of shortness of breath.

*13th February.*—Slowly improving. He has got hold of the word "business," and calls his bread, medicine, &c., "that business." He cannot pronounce the word "doctor," but calls me "that young man." He is sometimes very sick and restless, and on lying down an excessive perspiration breaks out, which,

though leaving him weak, entirely relieves him. The right hand feels numbed and cold.

*1st March.*—Slowly but surely improving in body and mind, though at times he suffers from sharp shooting pains in the chest and hypogastric region, where the muscular rigidity was most marked during the first stage of his illness. These last but a few minutes, during which he becomes excessively pale and nauseated, but does not vomit. He likewise suffers from occasional twitching of the muscles on the left side of the face and nape of the neck. The numbness previously complained of in the right hand has disappeared, and the left is now similarly affected.

*1st April.*—He is gradually improving, and now reads and speaks fairly well. The above recorded symptoms have all disappeared, with the exception of the anaesthesia, which has returned to the right hand. He now suffers from frequent and severe attacks of pain over left frontal bone and orbital nerve. The latter, of more recent origin, seems neuralgic in character. The submaxillary and cervical glands have become very much enlarged, and threaten to suppurate.

*1st May.*—Under the influence of quinine and galvanism the pain has disappeared. The glands still remain much enlarged. He walks out frequently throughout the day, and expects soon to do a little work.

On 15th July he fell down in "a fit." When I saw him, one hour after, he seemed to have quite recovered. He says he felt a severe pain in the fingers of his right hand, and as he caught his wrist with the other he lost consciousness. The right arm was convulsed. During the following two weeks he had frequent though less severe fits, sometimes four or five a day. All were followed by a short period of unconsciousness, and mostly all preceded by the aura, commencing in his right hand.

Since that time he has continued fairly well able to work part of the day at light work. Now and then he is so pained in left frontal region that he cannot work; but this, after a few days' rest, passes spontaneously away. On 20th December he had another epileptic seizure, limited, as before, to right arm. He was considerably bruised by the fall, and suffered for a week after from painful hyperaesthesia over lower dorsal vertebræ, lumbar and abdominal muscles. The disappearance of this pain was followed by pain, slight puffiness, and great tenderness on pressure over the area of distribution of left facial nerve. A week later he was well again, with the exception of occasional pain in left frontal and parietal region.

*Remarks.*—Cases of this disease have been but rarely recorded in this country, and I am not aware of any cases observed within recent years since those published lately in *Glasgow Medical Journal*, by Dr. Frew of Galston. No doubt other cases have been recognised in Scotland, and may have been recorded, but the total lack of works of reference prevents my detailing them. Cases somewhat similar, and accompanied by retraction of the head, not unfrequently follow on bronchitis, with suppuration of the ears in young children. A case of this kind which terminated fatally came under my notice about two months ago. These cases are, however, more amenable to treatment, as the meningitis is secondary, and due to the extension of the inflammation from the middle ear.

This case is a good example of the sporadic form of cerebro-spinal fever, affecting as it did the cerebral rather than the spinal meninges, and being of an inflammatory type, demanding antiphlogistic treatment at the outset. There was wanting that excessive fluidity of the blood, vasomotor, and general spinal symptoms so characteristic of the epidemic type. Yet though of the sporadic type, its rapid onset and the severity of the primary symptoms gave but little hope of recovery. The temperature was at no time above 101°, and this no doubt accounted in a great measure for its favourable termination.

Nothing in his physical symptoms was more surprising than the variability of the pulse. It seldom remained 24 hours at the same rate, varying from day to day, and even from hour to hour, without any appreciable change declaring itself in the patient's condition. Whether slow or fast, it was always characterised by very low tension.

The bowels were constipated throughout until the recovery of consciousness, since when laxatives have seldom been required.

The chief peculiarity of this case was the long continued organic existence through which the patient lived. This automatic state may be quoted as continuing exactly 75 days from the time, 5th November, 1885, when he first lapsed into that condition, until 28th January, 1886, when he awoke to consciousness. A somewhat similar case is quoted by Dr. S. Gordon, of Dublin. In this case the patient had likewise passed into a state of organic existence, voiding his motions in bed. Could move his arms and legs, but could not move his hands at all. This was his condition 58 days after his illness.

Not less remarkable was the sudden return to consciousness

and his subsequent almost complete mental recovery, for he is now, though incapable of sustaining much fatigue, almost as capable mentally as before his illness.

The morbid changes in cerebro-spinal fever, in the usual run of cases, are characterised by excessive hyperæmia of brain and cord, subarachnoid and interstitial effusion either of serum, transparent gelatinous material, or of purulent matter, the latter the more frequent. One cannot help speculating on the probable morbid condition in this case. Though purulent effusion is most common, it is chiefly confined to the fulminant type. In this case the primary inflammation was not of a severity likely to produce other than a copious effusion of serum and lymphy matter over the cerebrum in the arachnoid spaces, and possibly in the lateral ventricles. The only symptom referable to basal implication was the diplopia, and this was, in all probability, due to the affection of the sixth nerve, close to the pons Varolii. The retention, in all its entirety, of the power of co-ordination of the muscular sense points to the cerebellum being slightly, if at all, affected.

It has been generally understood that the state of the meninges is an index of the changes the centres have undergone. The usually slow pulse, the absence of motor paralysis, the intense headache, and the retention of control over the motion, all justify the surmise that the mental symptoms were solely due to intra-meningeal effusion and not to inflammatory changes in the centres. The low temperature, the gradual clouding of the intellect, and the rapid recovery of consciousness all support this inference.

If this, however, were the condition of the meninges which produced general anaesthesia, loss of smell and taste, why were not the motor centres likewise interfered with? Is it reasonable to suppose that a pressure capable of seriously affecting the sensory centres was incapable of affecting the motor? The cerebral centres have not, however, altogether escaped inflammatory action. The persistent and still occasional fronto-parietal pain, the marked aphasia, with numbness of the right arm, followed by convulsive movements, limited to that member, all point to injury more severe and permanent in the third left frontal convolution in its superior and inferior parts. The symptoms referable to this injury are still, in some degree, present, but as they are gradually improving, it is hoped that they will ultimately disappear.

Of treatment I have said but little, nor am I confident that any means I employed had any beneficial results. Internally, iodide of potassium was administered, first alone and after-

wards with bichloride of mercury, till slight salivation was produced. In the convalescent stage ergot and belladonna were substituted.

Locally, after the inflammatory symptoms had somewhat subsided, fly blisters were applied repeatedly to the nape of the neck, temples, and forehead, and, in the later stages, iodoform ungt. and galvanism were applied.

As a sedative and hypnotic, bromide of potassium was at first given, but, proving ineffectual, was in a few weeks replaced by bromidia, which, in its turn, had to yield to morphia, which alone, and in large doses, could procure sleep.

Opium, I was aware, is considered by Continental physicians, the sheet anchor in cerebro-spinal fever, but the *rationale* of this treatment seemed so utterly opposed to general principles that I hesitated to avail myself of it. In a communication I received from Dr. Gordon, of Dublin, he expressed himself in favour of belladonna and ergot, and, on his recommendation, I employed this remedy, which, looked at in the light of the pathological changes, seems the most rational form of treatment.

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## LECTURES ON THE DISEASES CLASSIFIED AS TABES MESEENTERICA.

By W. T. GAIRDNER, M.D., LL.D.,  
Professor of Medicine in the University of Glasgow.

(Continued from page 177.)

### LECTURE II.—NOSOLOGICAL AND CLINICAL.

IN the former lecture we arrived, both on historical and on clinical grounds, at the conclusion that there is no sufficient basis, either in pathology or in nosology, for the name *tabes mesenterica* as applied either to one disease or to a group of diseases. This is not meant to imply that tubercular disease of the mesenteric glands is either infrequent, or of no importance when it exists; but that it is so constantly associated with and symptomatically blended with other morbid conditions as to have been incorrectly assumed as the special designation of the group. So much, indeed, is quite clear even from the article of Guersent, already quoted to you, and almost universally adopted as a leading authority upon the subject. It is notable, however, that M. Guersent's article, while fully deserving its position in medical literature as an inquiry into facts, is vitiated throughout by an error in logic,

which is none the less remarkable because of the clear statement of the facts. Even while admitting that there are no pathognomonic symptoms, no positive characters by which, as he says, the *carreau* can be recognised; even while declaring that all its symptoms are doubtful, and masked by those of the diseases with which it is complicated; nay, even while he maintains that it forms "in the nosography a genus altogether artificial," *carreau* remains for M. Guersent still identified in idea and in fact with *tabes mesenterica*, or at least with tuberculisation of the mesenteric glands. He takes a name which is confessedly a popular, and not a scientific, one: a name, moreover, which is popularly applied to conditions of the abdomen outwardly recognisable; and he insists upon applying that name, and its presumed correlative in Latin, to a disease which, as he himself says, "belongs almost exclusively to the domain of pathological anatomy;" of which, moreover, he had never met with a single isolated instance, and of whose symptoms, therefore, as a separate and independent disease he himself can give no account. This error in logic, I apprehend, is not peculiar to M. Guersent, but extends more or less to all who, at least since his time, have allowed themselves so to employ these terms. Many, no doubt, have avoided the error by practically throwing over the term *tabes mesenterica*; as, for example, almost all the German and many of the more modern French writers on the diseases of children; but still the fact remains that the latter term continues, more or less, in use; and that wherever it is in use, it always suggests the same idea. It would seem, therefore, not to be a work of supererogation to attempt to reconstruct the nosological edifice which I have shown to be so unstable; and to show you, from the clinical rather than from the pathological point of view, what, if any, are the foundations on which it rests. This I hope to do in such a way as to lead to some practical conclusions of more or less importance as we go on.

We must, however, lay aside for the moment all ideas exclusively derived from pathological anatomy, as of the mesentery and its glands infiltrated with tubercle; and on the other hand, all such fanciful notions as the purely mechanical one of obstruction to the course of the chyle, to which I have already adverted. If we take now the popular word *carreau* in its original and purely popular meaning, which, nevertheless, though metaphorical, is quite truly the expression of a fact, we shall find that the leading idea brought up by the term is the *prominence* and at the same

time *induration* of the abdomen in young children. As long as this purely clinical fact was placed in the front of the picture, the describers of the *carreau* were on safe ground, clinically speaking. It was when they departed from this in search of a pathological explanation of the fact that they were led into error; and this remark applies still more to the work of M. Baumes than to that of M. Guersent. That an important and fatal disease of infancy exists, characterised by a hard and tense abdomen, and that this disease is fatal in many or most instances after the manner of a *tubes* or *atrophy* is, and remains, a fact beyond all doubt; but when we attempt to look closer at this fact, and to discover exactly what it means, we find ourselves at once involved in a difficulty from which, as long as we cling to the mesenteric theory, there is practically no escape; for although it may be true that mesenteric disease, or tubercles of the mesenteric glands, are to be found in many or most of the cases in which such hard enlargements of the abdomen prove fatal, it is impossible to maintain that such tuberculous glands are the cause of the abdominal enlargement, and it is more than doubtful (as we have seen) whether they are in most cases the cause of the fatal atrophy. As almost all modern authors admit, they are probably only the incidental accompaniments both of the one and of the other; nay, I am disposed to go even a step further than this, and to say that mesenteric glandular disease, did it ever exist as a separate nosological form, would in all probability not present the clinical features of the *carreau*; certainly it did not do so in the single case which I have placed before you in the preceding lecture. Now, when we consider the matter from the side chiefly of the tumid abdomen, it is necessary to make some further and some strictly clinical distinctions. The abdomen may become tumid, as we all know, from mere flatulence, with or without constipation; from mere muscular relaxation and deficient peristaltic power of the intestines; from mechanical obstruction in the course of the intestinal canal, or from scybala accumulated within it; or, on the other hand, distension may take place from fluid effusion in the peritoneum (as in simple ascites), or from cystic tumours, or even from solid tumours of the viscera other than the mesenteric glands, and especially of the ovaries, uterus, liver, and spleen. All these forms of distension, however, differ very notably from that which is implied in the idea of the *carreau*; and it is to these differences that I wish to direct your attention for a short time.

"The enlargement of the abdomen," says M. Guersent, "on

the ground of which popular opinion pronounces boldly on the existence of *carreau* among children, especially when the characteristic emaciation of the limbs, and pallor of the face are united to it, is absolutely insignificant. Most children up to the age of three or four years have a voluminous abdomen; the intestinal canal is proportionally longer than that of the adult, as it is still more in the foetus. . . . When children have a weak intestinal canal and difficult digestion, the intestines are often distended by gas; the abdomen is almost always blown up and resounds like a drum. This disposition is all the more remarkable among feeble infants having a narrow and ill-developed chest, because in them the liver is more voluminous, and tends accordingly to press down the mass of the intestines. Ricketty infants are all affected in this way, and yet very few of them present mesenteric tubercles. . . . They are much more frequently affected with diarrhoeal discharges, and particularly with the mucous and sanguinolent diarrhoea which depends ordinarily on a cæcocolitis, a disease so common among young infants, that at least a fifth of those who die from the time of birth to the age of five or six years may be said to be affected with the disease either alone or as a complication." Accordingly, Guersent maintains, not without reason and in the spirit of the whole article, that the tumid abdomen is by no means characteristic of the *carreau*; and further, that it is frequently not present when tubercles of the mesentery exist in young children, and is scarcely found at all in similar cases in adults.

I am not concerned to dispute any of these propositions; and yet it may be worth while to look a little more closely at the various kinds of swollen abdomen here alluded to, in contrast with others. None of those described in this paragraph, it appears to me, are characteristic of what is popularly termed *carreau* or, according to the imperfect scientific conception of it, *tubes mesenterica*; for in both of these cases the idea of hardness, and even of solid resistance, forms a part of the diagnosis by no means to be neglected, and to which I am going to ask your particular attention. I shall in these remarks, accordingly, have regard not only to what is technically called *tubes mesenterica* or *carreau* by the writers of the beginning of the century, but also to the descriptions of chronic and tubercular peritonitis, in those later and classical works of which the splendid French work of Rilliet and Barthez, and in our own language the one well known to you all of Dr. West, may be considered the leading examples. From the latter I would desire to read to you only a few

sentences as an introduction to what I have now to say. Speaking of tubercular peritonitis, Dr. West\* writes:—"Some of you have probably been struck by the many points of resemblance between the symptoms that have just been described and those which are often enumerated as characteristic of mesenteric disease. Nor is it at all surprising that a very close analogy should subsist between chronic peritonitis and *tabes mesenterica*, since not only are both affections the results of the tubercular cachexia, but in both the abdominal viscera are chiefly involved in the disease, and both are in consequence characterised by a remarkable impairment of the functions of nutrition. It was natural, too, that in former times, when morbid anatomy was less carefully cultivated than at present, the attention of the observer should have been chiefly drawn to the increased size and altered structure of the mesenteric glands—appearances which must have been often discovered on an examination of the bodies of children who had died after a slow wasting of their flesh, attended with more or less enlargement of the abdomen, and disturbance of the bowels. *The physiology of those days, too, knew of no means whereby the absorption of the chyle could be effected, except through the medium of the mesenteric glands*; and the coarse appliances which then subserved the purposes of anatomical investigation did not suffice to show that, even when these glands outwardly present a considerable degree of tuberculisation, their lymphatics in many instances are still pervious.

"We know that the nutrition of children is often much impaired from other causes besides tubercular disease; and that, when the digestive organs perform their functions ill, nothing is more common than for the abdomen greatly to exceed its natural size. Our predecessors had observed similar facts; but, owing to the imperfection of their physiological knowledge, they drew from them erroneous conclusions. Disease of the mesenteric glands was in their eyes the almost exclusive cause of the atrophy of children, and a preternatural enlargement of the belly was looked upon by them as an almost infallible sign that such disease had already begun. *Tabes mesenterica* was consequently regarded as a very common affection; and though its frequency is now well known to have been much overrated, yet the appearance of those symptoms that were once supposed to be characteristic of it, still excites much needless alarm among non-professional persons."

\* *Diseases of Children* (4th edition), pp. 628, 629.

The only remark I would make on these sentences, with the general purport of which I entirely concur, is that while both tubercular peritonitis and mesenteric glandular disease must necessarily come within the purview of the remarks I have still to make, I wish it still to remain in suspense whether these two pathological conditions completely occupy the field of clinical observation which I have to present to you. That they occupy a large part of it I am personally convinced, but perhaps there may be some reason for doubting whether they occupy the whole of it. Here, as in very many other instances, pathological anatomy has given us information, extremely valuable, no doubt, and accurate of its kind, but still information *with a bias*. It has told us in great detail, and with great precision, *what has happened to those who die*; it has not told us with anything like the same precision, sometimes it has not told us at all, *what has happened to those who recover*. What I have now to tell you applies to both; and therefore it is that I keep the clinical aspect of the case before my mind rather than the pathological.

Now, among the crowds of infants and young children who fall into disease mainly characterised by abdominal symptoms in the first instance, it is beyond all doubt that a large proportion come under the suspicion of being tubercular; or, if you like to call it so, scrofulous. They may have had phthisical parents; they may belong to families in which deaths from manifestly tubercular diseases have occurred; the patients themselves may have had, or may have, disease of the lungs manifested either through symptoms or by physical signs; they may have had enlarged glands in the neck or in the axilla, or may present such a typically scrofulous physiognomy as I show you in this very beautiful and characteristic water-colour drawing; they may have had, or may still have, scrofulous affections of the bones or joints, associated or not with changes in the viscera, such as are now commonly called amyloid, with their characteristic symptoms; or the abdominal enlargement may have succeeded to a period of vaguely deteriorated health and disturbed digestion with diarrhoea, &c., which of itself would amount to presumption, at least, of tubercular ulceration of the mucous membrane. But on the other hand, as I have good reason to know from experience very carefully investigated and recorded, abdominal enlargements of precisely the same kind may occasionally occur quite apart from all or most of these other incidents, and therefore I wish to dwell a little upon such enlargements under their least complicated aspect in the first instance.

A child is brought to you who may or may not have been complaining for some time of the abdomen, and in whom there has occurred, perhaps within a period of days or weeks, such a notable enlargement of the abdomen as has appeared to call for medical advice. Most of you have seen scores of such cases; many of you see them every day. There may have been diarrhoea or there may not; very often there has been a period of diarrhoea controlled more or less by remedies, and then swelling when the diarrhoea has ceased; or the swelling and the diarrhoea may go on simultaneously; or, on the other hand, there may have been no diarrhoea at all, or even obstinate constipation, or this alternating with diarrhoea. In like manner the swelling may or may not be associated with severe pain. There may have been pain and probably tenderness, and it may have disappeared before you see the patient; or pain or tenderness, either or both, may still persist; or they may neither of them have been present in any appreciable degree at any stage of the disease. If, under these circumstances, you judge that the swelling is merely tympanitic; if, as M. Guersent puts it, "the abdomen is blown up and resounds like a drum"—and this in a very young child within the rickety age, and perhaps with symptoms of incipient rickets, or even without these accompaniments—you will probably be quite correct in assuming that it is not an affair of very much importance. A few laxative doses, or the use of carminatives, rubbing with the hand, and other simple expedients, or even the lapse of a few days without remedies at all, may dispose of such a case at once, and remove all that is worth removing of the apparent disease. I agree entirely with what your experience, as well as almost all the authorities, will concur in affirming, that such a condition of the abdomen gives no evidence of organic change. But in other cases the enlargement of the abdomen is not accompanied by this complete tympanicity; the sound given forth is equivocal or of ambiguous interpretation; or, it may be, there is partial dulness on percussion over points that ought to give the clear intestinal note; and at the same time there are apparent inequalities in the resistance to palpation, which, no doubt, if the abdomen is very much distended (as in some cases of mechanical obstruction of the bowels), may be due to individual coils of the intestine filled with fluid and intercepting the clear percussion note; or even (as Skoda has shown) to the very excess of tension diminishing or obliterating the normal resonance. The difficulty is how to deal with these ambiguous cases, and it is upon this that I hope at least to throw some little light.

I would strongly recommend you in such cases never to be satisfied with one examination. Examine the whole abdomen in detail, in various positions of the patient, with every degree of force of percussion that can be reasonably employed, and also by palpation. Note the results carefully, and return once and again to the subject, employing, if you like, such rough diagrams as I show you here, or in some cases making marks on the external surface of the patient's body to guide you in a subsequent examination. Leave as little as possible to mere recollection, and try to have at least very positive facts on which ultimately your theory of the case may proceed. If it presents from day to day a series of dissolving views, as it were, then, of course, the probability is that the conditions are evanescent, and therefore not connected with organic change. But in certain cases the facts will gradually take on order and consistency, and will, if I am not mistaken, sometimes assume one or more of the following successive aspects:—

1st. The abdomen may present all the physical character of a certain amount of fluid effusion together with tympanitic distension, the relative areas of these varying with the position of the patient. In such cases the clear percussion of the umbilical region in the recumbent posture, the dulness of the flanks and hypogastrium in the same posture, with the specially and distinctively clear gastric percussion in the epigastrium and left lateral region, usually leave no doubt as to the existence even of a moderate quantity of fluid. If any doubt remains, turn the patient over upon his hands and knees, and observe if the perfectly clear umbilical percussion is replaced by dulness. With these signs you may, of course, have fluctuation; but I am speaking of cases chiefly in which the amount of fluid may be too small to give this sign, at least unequivocally.

2nd. The alternation of dull and clear percussion, as in the former case, may exist, but the dull percussion may not gravitate, or alter with the position of the patient. And yet there may be, in the same or other parts of the abdomen, distinct evidences of fluid accumulation and even fluctuation.

3rd. The greater part of the abdomen may be dull to percussion, or dulness may predominate largely in the umbilical region, while the percussion remains perfectly clear in the gastric region, or over the transverse colon, or in one or other groin; and in this instance, also, change of position may fail to modify the facts, or may modify them so slightly as not to be consistent with the theory of freely gravitating fluid.

4th. All the conditions, 1, 2, and 3, may appear in definite succession, and yet gradually evolved over a period of days or weeks, in such a way that an experienced physician may apprehend in advance, or even predict, the order of their appearance; or, the first stage may appear to be wanting and 2 and 3 may alone be presented to observation; or, the state observed from the first, so far as it can be distinctively ascertained to be abnormal, may correspond rather with number 3 than with any of the others.

I insist upon these details, which you will find to be all more or less carefully illustrated in cases which I have published in the *Medical Times and Gazette* (see especially 29th August, 19th and 26th September, 1885), because, according to my experience and reading, they are often neglected, or very imperfectly stated in their relations to this important subject, even in the most advanced elementary works on physical diagnosis; and even in the best modern treatises on diseases of children, I have been led to remark a want of definiteness in their teaching on the subject. Unless, in fact, you thoroughly master these details, and thoroughly apply them in each case, you may just as well go back to the old vague description of the *carreau* as an inflated and resisting abdomen, without further distinction. But, with the aid of these details, I fully expect that you will be able to make out the following (surely very important) clinical facts:—

In many of the children who come to you with a distended abdomen you will not have much difficulty in discovering, through palpation and percussion employed together, that besides the tympanitic condition of some portion of the intestinal canal, there is distinctly evidence of fluid effusion or ascites. Now, unquestionably ascites may occur in the child from the same causes and under the same circumstances as in the adult; but this is rare, comparatively speaking. In particular, ascites in the child is very rarely determined by obstruction of the portal circulation, although I have seen a very few cases so determined. And "primitive" ascites, as Rilliet and Barthez call it, is in the child, confessedly, extremely rare. It may therefore be assumed as probable, almost indefinitely probable, in advance that infantile ascites is associated with some kind of disease of the peritoneum itself; and in the few cases in which in my hands it has been such as to require paracentesis, it has invariably been attended by circumstances showing this to be the case.

But in the great majority of cases fluid effusion, though it may be present, is small in amount, and never even suggests

a question of paracentesis. Now, it is in these cases very particularly that the question arises:—Assuming that there is fluid, and yet not a great amount of fluid, and that this arises from disease of some kind in the peritoneum itself, are there also inflammatory alterations present, or at least such organic alterations as tend to restrain the movements of the intestines floating in the fluid? If the small intestines are matted together or bound up in a mass in front of the spine, or in any way, indeed, hindered from coming towards the surface, then the gravitation phenomena almost invariably observed when a merely serous effusion, moderate in amount, is present, may be expected to undergo modifications, or even to be entirely intercepted. Hence the practical importance to you of the observations conducted under the heads 2 and 3. In point of fact, I may tell you, as my own personal opinion, that most of the cases, to which the name of *carreau* can with propriety be applied, have at one time or other presented the conditions here referred to—*i. e.*, the evidences of fluid, probably in small or moderate quantities, in the peritoneal cavity, but at the same time so disposed as not to permit of the shifting of the clear and dull percussion-area, according to position.

But, further, we have seen that the idea of *carreau* proper involved the existence of *preternatural hardness*, as well as distention, of the abdomen. Now, what is this hardness or preternatural resistance? The rickety abdomen, and even the distended abdomen which arises from constipation or tympanites, may be more or less resistant, but it is always elastic, unless from spasm of the muscular wall; and this will always disappear under *anæsthesia* from chloroform. The abdomen proper to *carreau*, on the other hand, is more or less permanently non-elastic, dense, and in the most marked cases giving an impression almost of a solid tumour; and yet such tumours are quite distinguishable, as a rule, from enlargements of the solid viscera. I have seen very many such cases, and have rarely felt any doubt at all as to this. You may take it as being an established fact, within my experience, that these semi-solid and non-elastic enlargements of the abdomen stand in a very close relation to the phenomena I have already described, and that they are usually, if not always, dependent upon thickening of the peritoneum itself, or perhaps of the peritoneum and the adjacent sub-peritoneal connective tissue, and especially of that portion of the peritoneum which forms the greater omentum.

All the facts on which I have now insisted are well known

as a part of the pathological anatomy of tubercular peritonitis; that is to say, they have been studied, even minutely and carefully studied, in detail, from the side of pathological anatomy, and in fatal cases. I am not, therefore, in any way pretending to teach you anything new, when I say that the diagnosis of *tabes mesenterica*, or *carreau*, is inextricably mixed up with the physical signs of peritoneal rather than of mesenteric glandular disease; and that it is even doubtful how far the latter enters at all into the diagnosis from physical signs, as commonly observed. But I am, nevertheless, clearly of opinion that the precise observation and the just significance of these physical signs *in cases which are not fatal*, but which make, at all events, a temporary, and in some cases, a permanent recovery, has not hitherto had sufficient attention bestowed on it; and one consequence of this has been, that in even the most justly esteemed monographs, as well as in most of your handbooks, the *prognosis* in these diseases inclines far too much to the grave and even hopeless aspect of them, and fails to recognise the existence of more or less similar cases which would tend to qualify that prognosis. How, indeed, could it be otherwise, when it is constantly assumed that nothing of a precise nature is, or can be, known about these diseases except through pathological anatomy—*i. e.*, after the case has proved fatal? In the great work of Rilliet and Barthez, for example, nothing can possibly be more elaborate than are the descriptions in every detail, and also the numerical data, founded upon the pathological anatomy, both of the glandular disease and of the peritonitis; but when *they come to the symptoms*, the picture at once becomes hazy and apparently altogether uncertain. "The local symptoms," it is said, "of tubercular peritonitis are sufficiently numerous, but it is often difficult to appreciate their value. We have no criterion which will admit of our recognising the disease at a period near the beginning, or which at a later period indicates, in a positive manner, its progress and its extent. We are reduced to approximative estimates based upon the more or less considerable volume of the abdomen, upon its external aspect, its percussion-resonance, its tension, its inequalities, and the tumours which palpation reveals, or the pains, more or less acute, of which it is the seat." In the discussion of each of these phenomena, nothing but praise or admiration can be, or ought to be, accorded to the authors of this great work; but still, I think I am not overstating the case when I represent them as guided mainly by the idea that the diagnosis, to be clearly established, must either be corroborated by

pathological anatomy, or must, at all events, present lesions so advanced as to be certain to end in death. Their prognosis, accordingly, is discouraging to the last degree. It resolves itself into the syllogism (not, it is true, expressed anywhere in such terms):—

Certain fatal cases have had such and such symptoms.

But the earlier stages and the non-fatal issues of such cases are practically unknown to us.

Therefore, such cases are always, or almost always, fatal.

Now this, Gentlemen, is exactly the same bias as I have already referred to as influencing the progress of our knowledge in all cases in which pathological anatomy has greatly extended, or rendered greatly more precise, our conceptions of organic disease. In respect of cardiac disease, pulmonary disease, renal disease, perhaps even cerebro-spinal disease, we have had over and over again to learn the same lesson—namely, that certain typical aspects of disease, which we have come to know accurately only through pathological investigation, have thereby come to be regarded as hopeless, or, at all events, of exceedingly grave prognosis, the milder cases and those which admit of recovery, partial or complete, being, as it were, discounted, because they have not received the verification which, according to the thorough-going pathologist, arrives only when the subject is placed on the *post-mortem* table. Now, as I view the matter, *carreau*, or *tabes mesenterica*, is at present in this, perhaps, too unfavourable position. Its diagnosis is confessedly difficult in the early stages. Its prognosis, is, under the most favourable views that can be taken of it, confessedly grave; that is, *in well established cases*, it causes a great amount of mortality; but are we therefore to conclude that all the cases which recover, or appear to recover, are cases of a different order entirely? Such is not the conclusion to which I have been led in the course of my experience.

You will now see why it is I have insisted so much, in the earlier part of this lecture, upon the necessity of keeping our eyes fixed upon the clinical, rather than upon the pathological aspect of this subject. Not by any means that we are to cast aside, as valueless, the great and fruitful labours of the pathologist, but that we are to use them in the spirit and after the manner of the physician, who aims at curing his cases rather than completing his diagnosis of them by pathological anatomy. We must, in other words, absorb the facts of pathological anatomy into our diagnosis; but we must avoid, if possible, the fatal bias which arises from the patho-

logical method of contemplating these facts. Hence, although it may be admitted, and freely admitted, that many cases of chronic peritonitis, or of glandular disease, are tubercular, and that many of these die; yet it by no means follows from this that cases of apparently the same order, but which recover, are not cases of mesenteric disease, or of chronic peritonitis. We may admit that a certain amount of doubt necessarily attaches to the diagnosis: but we must not allow this doubt to carry us so far as to affirm positively the extremely dangerous, or hopeless, or necessarily fatal character of all such cases. I suppose there is not one of my audience who has not witnessed one or more recoveries under circumstances which, had the issue been death, tubercular peritonitis or tabes mesenterica might have become the diagnosis. My argument is, that, in some of these cases at least, the diagnosis was probably justified, even in the face of the recovery.

The cases I published in 1884 were specially directed to the elucidation of this point, and I will now place them before you in the briefest possible abstract; more especially as one of them will be open to your inspection, both at the close of this lecture, and probably during the remainder of the course.

*(These cases, with some others added, forming a clinical appendix to the present Lecture, will be produced in the next number.)*

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## CONGENITAL LARGE UMBILICAL HERNIA.

BY JOHN KEITH ROBERTSON, M.D., GREENOCK.

MRS. H. was naturally and safely delivered of a large and strong male child, 22nd August, 1886. A very large tumour, about the size of the child's head, was projecting from the abdomen at the situation of the navel. The tumour was covered by peritoneum throughout its large circumference, which, being healthy and normal in appearance, was, as serous membranes generally in healthy condition are, clear, shining, and transparent. It was well rounded, and had no projections in its mass externally; while its smooth surface and fluid feeling left no doubt of its containing liquid, which kept up its rounded form and soft feeling. As this fluid was itself also transparent, it was serous fluid in healthy normal condition. The funis was inserted into this serous covering, being shed over it in fan-like expansion, from its centre, where it reached it, to each side of the tumour. Where the funis was

thus inserted into the peritoneum, and in those parts to which it was extended, the transparency was diminished, though those parts were not opaque. The funis itself was unusually devoid of blood, venous or arterial, and thus no coloration was observable, so that its extended insertions had only a more dull, cloudy, white appearance, which might be described as semi-transparent. It need hardly be mentioned that no other coverings to the tumour were present.

The sight was one rare to be seen and never to be forgotten; the mass so large, so unusual, so brightly glistening on its surface, and so clear and transparent in its glass-like enclosure that the contained parts were easily seen and determined. These consisted of the bowels, clearly traceable being the small intestines, what I jotted down also as the ascending and transverse divisions of the colon, and, on the under surface of the uppermost part of the tumour—to see which the mass had to be turned to the left side—the doubling on itself of what I did not doubt was the duodenum.

That part which I concluded to be the transverse colon I had at first taken to be the stomach extended; but this I abandoned as unlikely, from its distance from the usual position of that organ. It had the upper and under curvatures apparently; but these, I reflected, might be appearances caused by the constricting ring of skin under which the part emerged. This ring seemed to grasp the tumour which had extended through it, being thrown into folds, as if a cord had encircled it a few times, before it spread out more loosely about an inch further up the extended side of the mass, where it terminated distinctly and abruptly. This ring, at its narrowest part, was about the size of a crown piece.

In a short time meconium was passed, the infant urinated freely, and took kindly to milk and water.

The next day I asked Dr. M'Raile to see the case with me. The serous covering of the tumour was, as expected, more opaque; yet the Doctor, though not certain that it was bowel which was observable through it, agreed that it was bowel-like.

The cotton cloth next the tumour was wet with a yellowish-coloured serous exudation; while on the under surface of the extended mass, that resting on the skin of the child's abdomen, the serous covering was bright blood-red, and exuding serum, having an ulcerated appearance.

The infant had an altered weak look, and was moaning much. The meconium came away in good quantities, and the Doctor thought if it continued so for two days longer it was

unlikely that it passed through that part of the bowel contained in the tumour; *i. e.*, that there must be some continued previous bowel passage unconnected with any bowel which might be in the extruded mass.

24th.—Saw the midwife, Mrs. Hunter, whose case it was, who reports that the child was vomiting "just the same that he passed," and that the moaning was continued. I asked her to show the case to Dr. Wilson, who promised to call to-day.

25th.—Saw the child; it was better; took milk, slept well, and had a strong cry. I did not encourage putting the infant to the mother's breast, and the mother, indeed, found it almost impossible to do so from the compression of the tumour which ensued. I asked Dr. Wilson to percuss the skin-covered abdomen, and did so myself, to ascertain whether it, like the external tumour, was filled with fluid. But we agree in stating that there was no sign of such there.

The serous covering was more black and now opaque. The edges round the ring were eroded, as if separating, and at one point on the under surface a few drops of blood were oozing. Those parts which previously were blood-red were now more darkened and smoother, having lost their abraded, ulcerated appearance.

29th.—Before examining the infant, Mrs. Hunter said the cord had separated, and where it had done so the parts had again become transparent, but the latter appearance did not present itself on examination. There was the same ulcerated look round the ring, as if the extruded mass was to be strangulated off. Defecation is continued, and also vomiting, the latter being sometimes dark yellowish, bilious-looking, sometimes like what is voided. The child is visibly failing, emaciating, flabby in flesh, with aphthous tongue, mouth, and throat; the cry is weaker.

31st.—The little patient died at 10 a.m. Dr. M'Raile assisted in a *post-mortem* examination at 4 p.m. The cadaveric rigidity was well marked on the emaciated body. The covering of the bowel was dark yellowish, very much thickened, opaque, and adherent to the contents beneath. These, on being opened into, by slitting and separating the tough adherent peritoneum, were found to consist of a reddened fleshy and fibrous-looking mass, matted and entangled so that the smooth but reddened bowel had to be extricated from a mesentery so thickened and interwoven as to be fibroid in appearance, and to offer a firm resistance to the knife.

On opening into the sac, sanguous fluid escaped in small quantity, dark as iron solution into which sulphuretted hydro-

gen had been passed. But for a tough resistant feeling to the scalpel, the dissection reminded one of cutting into the thymus gland in the operation of tracheotomy in a very young child.

That part which I had concluded was the transverse colon, on being exposed, so much resembled the stomach as to be pronounced such by both of us, so recalling the first impression its appearance created. In its median position, size, and shape, it seemed to justify the supposition. But on tracing its connections and bearings, the idea had to be put aside; and we found the true stomach in its ordinary position above the tumour, within the abdomen, in the epigastric and left hypochondriac regions. Dr. M'Raile calls this a second stomach, and he is probably right. Physically and functionally it may have been so, as well as in shape and size. The true stomach indeed was larger. The intestinal tract, from oesophagus to anus, was quite void of contents, the vomiting and purging for the few days previous having evacuated these. When disconnected, the duodenum was traced running from the pyloric end of the stomach to this remarkably dilated stomach-like portion, which latter we must, therefore, from its anatomical position, call jejunum. The small intestines continued through the pathologically disorganised mesentery mentioned, in their convolutions, till the ileum was carried across to the right side of the abdomen, high up to just below the duodenum, free from these convolutions; it then descended on the right side, in an almost straight tube into the anus. We call this ileum because it did not differ in size or appearance from the other parts of the small bowel.

With the exception of the greatly dilated portion referred to, such was the equality of calibre of the gut throughout, that the position of the bowel and its mesenteric connections, had to be the guides to the parts we were dealing with. It was thus demonstrated that what I had judged to be the ascending colon, was this abnormally situated ileal vicarious bowel termination.

Where, then, was the great gut? It was not. Whether it was absent, in the sense that it was never produced; or in the sense that it had once been, and then separated off; and when and how, are matters worth considering, however uncertain may be the sound of any answer. Here was nothing to represent anatomically or otherwise, the cæcum, ascending, transverse, and descending portions of the colon, or the sigmoid flexure and rectum.

Embryologists and physiologists have advanced our knowledge of the evolution and development of early foetal

formations, and demonstrated the bilateral construction of our bodies from those primitive structures, showing how, from the backbone as a centre, the anterior and posterior arches are progressively developed, and formed into completed circles; and how any stoppage of such normal upbuilding results in lacunæ as we observe in spina bifida, hare-lip, and the other centrally situated deficiencies of external wall formation. It is quite intelligible that parts in structures which formerly gave issue to ducts and vessels which traversed them or opened into them, from within or from without the body, should present points more than usually liable to imperfect closure. In the circumstances of our case such double combined conditions were present. We may thus consider that these conditions in this, as in all such cases, contributed to the state of imperfection present; though arrest of development cannot be said to be the cause of such arrest—that is, it cannot be its own cause. Arrest of development is the effect of some cause, except for the presence and operation of which, those structures had been happily completed and perfected, as is the case in all but a few rare instances.

It seems more difficult still to give physiological explanation of how the great bowel was absent, and to account for that most fortunate circumstance that the bowel present entered precisely into the normal anus.

But what concerns us most as medical practitioners, is to know or devise such remedial measures as to lead to preservation of life; or diminish the discomforts of the short life remaining. Even in these days of leaps and bounds in the advance of surgery, especially abdominal, operation in such a case is the more appalling, as the absence of wall covering prevents the retention of parts extruded, even should they be successfully returned.

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#### ON SENILE CHANGES IN THE ARTERIES, AND ON TRUE OSSIFICATION OF THE MIDDLE COAT.

By JOSEPH COATS, M.D.

(*With Two Woodcuts.*)

(*Read before the Medico-Chirurgical Society, 14th January, 1887.*)

ATHEROMA of arteries is present so frequently in persons past middle age, that it may almost be regarded as a normal senile change. In a great majority of persons who have attained to

old age the aorta will be found to present more or less thickening of the internal coat in localised areas, which we are accustomed to call atheroma. Just as we regard grey hair or baldness as characteristic of accumulating years, so I think, to a certain extent, should atheroma be so regarded, and in this view it is a degenerative process. In other respects also the process is a markedly degenerative one, fatty and calcareous metamorphosis being regular accompaniments of it. Of similar import I believe is calcareous infiltration of the middle coat of arteries, which is also of very frequent occurrence in the later periods of life. I have more than once endeavoured to enforce the fact that these two conditions are very frequently present in the same person, and I may here, with the help of the specimens which I have placed under the microscopes, illustrate this fact, and at the same time give some account of the histology of the two processes.

Atheroma is a disease mostly of the larger arteries, its most frequent seat being the aorta, but it frequently extends to arteries beyond the aorta such as the iliacs and femorals. There are two situations in which atheroma is very frequent, even in vessels of comparatively small diameter, and this fact is important in connection with certain consequences which often result from the disease in these situations. The vessels I refer to are the cerebral arteries and the coronary arteries of the heart, and we may associate with this the frequency of fatal lesions in the brain and heart in old people. Apart from these vessels, however, atheroma is mostly met with in the larger arteries of the body.

The specimens which I have put under the microscopes are transverse sections of the femoral artery in a man 63 years of age, whose arterial system as a whole was markedly diseased. Here is the description in the Pathological Reports of the condition of the aorta and other vessels:—"The first part of the aorta presents an almost continuous atheroma with calcareous infiltration in a high degree, and several calcareous plates. There was complete occlusion of one coronary artery and great narrowing of the other."

I have chosen the femoral artery as illustrating both of the processes to which I have already referred—namely, atheroma and calcareous infiltration of the middle coat. It will be seen that following the contour of the vessel, the internal coat at one side undergoes a very marked thickening, so that it is here many times thicker than in the rest of the circumference, although it is probably nowhere of normal thickness. In this thickened part the deeper layers are much degenerated, the

form of degeneration being the fatty. The irregularly opaque appearance of the parts bordering on the middle coat is sufficiently striking, and you will see under one of the microscopes that with the high power the regular feathery crystals of margarine are present. The superficial layers of the thickened patch present the structure of connective tissue, which in one of the sections stained with alum-carmine is seen to be rather cellular. The cells are mostly elongated, their long diameter being parallel to the surface, but there are also a good many round cells. This part of the thickened coat has all the characters of tissue new-formed under the influence of chronic inflammation, and justifies the name endarteritis applied to this lesion. The middle coat has suffered very much in consequence of this thickening of the internal coat. The thickening has taken place not merely towards the calibre of the artery, but also in the direction of the middle coat, which is here greatly thinned, as can be readily seen in the specimens. It is noteworthy that for the most part there is opposite the patch no further change in the middle coat than this simple atrophy; as a general rule in stained specimens the muscular fibre cells were seen to be continued round through the thinned portion, although in one of the sections examined there was calcareous infiltration present, apparently an accidental coincidence.

Calcareous infiltration of the middle coat is frequently present, quite independently of the atheromatous patches. This is shown under several of the microscopes. The calcareous infiltration in its minor degrees manifests itself in a granular opacity of the middle coat, occurring in limited areas or patches. The granular matter consists of lime salts. These are deposited first in the muscular fibre cells, and it can sometimes be seen at the margins of the patches where the process is progressing, that these cells are, as it were, mapped out by the presence of the fine particles of lime salts in them. As the lime salts accumulate, the granules coalesce, and the patches often assume a homogeneous crystalline character, all trace of organised structure disappearing. This is shown under some of these microscopes and it is seen that sometimes these crystalline masses have broken in the process of cutting the sections, leaving gaps in the middle coat.

In these specimens which I have placed under the microscopes the calcareous infiltration and the atheroma are present in the same vessel, but in different parts of it, and it will be observed that the vessel is one of the larger arteries, to which atheroma, if considerable, may extend. Perhaps a commoner

condition is that in which the two conditions are in different vessels, and that is illustrated in a case which occurred the day before yesterday while my mind was somewhat occupied with this subject in view of the present meeting. I have brought the specimens here for your inspection. You see that there is extreme atheroma of the arch of the aorta with frequent calcareous infiltration of the atheromatous patches. The atheroma is very frequent in the thoracic aorta, but it scarcely extends at all into the abdominal portion. I have also brought for your inspection the femoral artery, and you will see in the portion which has not been laid open that it forms a somewhat rigid tube. On opening up the femoral of the opposite side and inspecting it from within we saw numerous white transverse markings which indicated calcareous infiltration of the middle coat, the patches of calcification following the muscular coat which of course surrounds the vessel. I have dried this portion of the femoral artery and placed it in turpentine. This has rendered the tissue transparent and brought into strong relief the patches of calcification, whose general arrangement is thus rendered prominent. The internal coat in this femoral is not at all thickened so far as I can judge and there are certainly no atheromatous patches. It is quite apparent, therefore, that these two processes are quite independent of one another although their frequent coincidence certainly suggests that they have some common cause.

I have already suggested that both changes are to a large extent senile, and the facts noted would suggest that senile changes are prone to occur in the internal coat of the larger arteries and in the middle coat of those of medium and smaller diameter. They are together an expression of a general senility of the arterial system, and the facts would indicate that this senility affects the entire coats of the vessel, and not one in particular. It may be useful to enquire how it is that these senile changes manifest themselves in the internal coat in the aorta and larger arteries, and in the middle coat in those of smaller calibre. In answer to this question, it is to be remembered that the middle coat in the aorta has a very different structure to that in the smaller arteries. I presume that in the aorta the middle coat has few muscular fibre cells, being composed chiefly of elastic membrane. We have already seen that the calcareous infiltration of the middle coat commences in the muscular fibre cells, and the absence or sparseness of these cells in the aorta may explain the absence of the calcareous infiltration. Elastic

tissue is much more inert than muscular tissue; it performs its functions by virtue of its merely physical properties, and we may, I think, presume that such an inert tissue will be less liable to exhaustion in old age than the active muscular tissue. On the other hand, the internal coat in the aorta is peculiarly exposed to the force of the blood wave when the blood pressure is at its highest, and we can hardly be surprised that senile changes should occur in it more readily than in the arteries farther removed. We may probably account in a similar way for the frequency of atheroma in the coronary arteries of the heart, these, more than other vessels of their size, being exposed to a high blood pressure. It is also a fact of observation that in cases of hypertrophy of the right ventricle atheroma is liable to occur in the pulmonary artery. We may say therefore that senile changes occur in the internal coat in vessels where that coat is most exposed to rough treatment by the blood, and that such changes occur in the middle coat in vessels where the muscular coat is fully developed and where it has been in active service during life.

I have to add that here, as in other forms of senile change, there are great variations in the age at which these lesions present themselves. Just as baldness and grey hairs may occur in comparatively young persons, or may remain absent in old age, so we may have the senile changes in the vessels in comparatively young persons, or we may have them remain absent in advanced life.

It is customary to judge of the presence of atheroma in the arterial system by examining the pulse at the wrist, a rigid and twisted condition of the radial artery being held to indicate the probable existence of atheroma. Now, I am not sure that this is a very reliable test, and it does not at least indicate the existence of atheroma in the radial artery, as this lesion scarcely extends to that artery. Any value which it possesses depends on the fact that the radial is often the seat of calcareous infiltration of the middle coat, and as this condition of the smaller arteries is usually associated with atheroma in the larger, there may be a certain value in it. The twisting and dilatation of the artery are the result of the rigidity.

Having said so much in regard to the two conditions of atheroma and calcareous infiltration of the middle coat, I have now to call your attention to a condition which I found associated with these, and which, so far as I can gather, has

hitherto escaped observation. During last summer I gave out sections to my Practical Class illustrative of calcareous infiltration of the middle coat. One of the students called my attention to the fact that in his section there was what he took to be true bone in the affected part of the artery. On looking at the specimen there could be no doubt of the fact, and in going round the class I met with several other examples of it. Of these I have placed some under the microscope. In this artery there was frequent calcareous infiltration (see Fig. 1), and most of the patches presented the appearances already described. In some of them, however, the patch

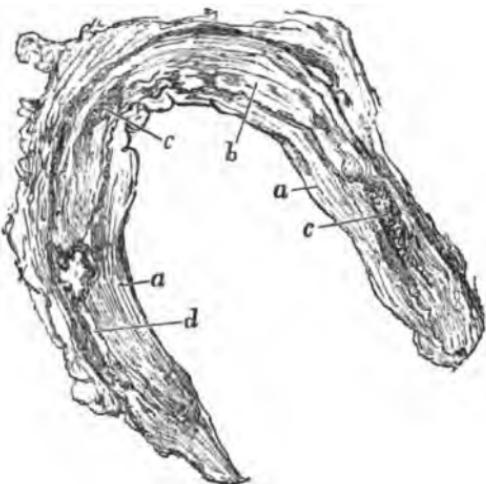


FIG. 1.—SECTION OF ARTERY.

a. Internal coat, atheromatous. b. Middle coat, atrophied opposite atheromatous patch.  
c. Calcareous patches in middle coat. d. Elongated piece of true bone.

which at first sight appeared to be simply of crystalline character like the rest, was seen to contain bone corpuscles with all the structure of true bone. The most striking specimen is one in which an elongated piece of bone lies in the portion of the middle coat immediately adjoining the internal coat, which here is the seat of atheromatous thickening (see Fig. 2). In other specimens the bone has got broken somewhat by the knife in making the sections, but with the high power the lacunæ and canaliculi are distinctly visible.

This may be regarded as a case of metaplasia or conversion of one tissue into another, and it is an instance of rather an

extraordinary kind. We are accustomed to regard the connective tissues as forming fundamentally one tissue and as mutually interchangeable to a considerable extent. We are familiar with the transformation of cartilage into bone, and it is not uncommon to find pieces of bone developing in membranes, more especially in the dura mater of the spinal cord; but it is rather an unlooked for fact that a tissue which is mainly composed of muscular fibre cells should undergo a transformation into bone. It is to be remembered, however, that the middle coat is by no means altogether composed of muscle; we have also not only elastic tissue, but ordinary connective tissue.

We may presume, I think, that in this case calcareous infiltration has preceded the osseous formation, and I am in-

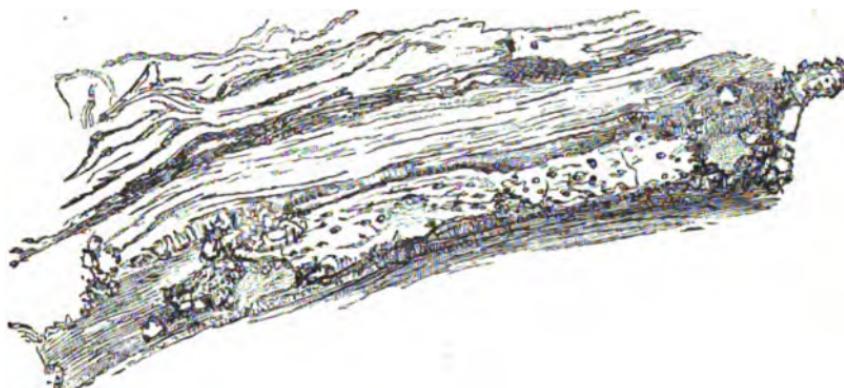


FIG. 2.—PIECE OF BONE IN MIDDLE COAT.

This is a more highly magnified representation of *d* in Fig. 1.  $\times 70$ .

duced by this to refer to another instance of senile change in which that is the sequence of events. One of the commonest changes in old age is the so-called ossification of the cartilaginous ribs. Although this term ossification is used, pathologists have been in the habit of describing the process as one of calcareous infiltration and not a true process of bone-formation. It is a fact that the process is largely a calcareous infiltration of the cartilage, a senile change of similar nature to that in the arteries, but Cohnheim has pointed out that it frequently goes on to a true ossification.\* When the ribs are merely calcified it is still possible to cut them with the knife, although considerable force may be needed, and the knife grates on the lime deposit.

\* Cohnheim, *Vorlesungen über Allgemeine Pathologie* (2nd edition), vol. i, page 625.

But sometimes we meet with dense hard structures, which the knife cannot be made to penetrate. In that case there is true bone with lacunæ containing bone corpuscles and canaliculi, and with medullary spaces containing blood-vessels. Cohnheim regards this as a kind of delayed ossification—the cartilage of the ribs being a provisional cartilage although it is late in life before it ossifies. I venture to question this view of it, especially in consideration of the facts which I have brought before you. Calcareous infiltration is much more frequent in the cartilaginous ribs than ossification, and it is probably a preliminary stage before ossification even when the latter occurs. It seems more probable that, as in the case before us, the existence of lime salts in the tissues afford a stimulus which may result in the formation of true bone. As a general rule structures into which lime salts are infiltrated are dead, and can undergo no further transformation, but in the case of cartilage such infiltration is obviously consistent with life, and the transformation may therefore occur. In the middle coats of arteries although possibly the muscle cells may perish, yet, the connective tissue remaining, it may undergo the transformation

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#### CASE OF DIABETES MELLITUS IN A GIRL OF NINE YEARS, WITH HEREDITARY HISTORY.

By WM. FREW, M.D., KILMARNOCK.

ABOUT two years ago, J. H., aged 9 years, was brought to me by her mother, who informed me that for several weeks she had observed that the girl was losing flesh, eating and drinking excessively, and passing a very large quantity of urine. Being familiar with the symptoms of diabetes she had brought her to me for my opinion. The child had a cachectic look, and on obtaining a specimen of her urine it gave the following result upon examination:—Sp. gr., 1037; no albumen; with Fehling's solution the presence of sugar in large quantity was indicated. The mother informed me at the same time that the girl's grandfather, an uncle and aunt, all on the father's side, had died of diabetes. The uncle's case I was familiar with myself, and I had confirmation of the death of the uncle and aunt from the same disease, from the child's grandmother, who is still alive. I gave the mother directions as to diet, &c., and prescribed codeia in  $\frac{1}{4}$  gr. doses three times a day. They

were patients belonging to the working class, and lived in the country, so that the patient was not seen very regularly. On calling to see her, when passing her way a short time after her visit to me, I learned that she was neither being restricted in diet, nor was the medicine being given—a condition of matters due partly to a very stubborn disposition on the child's part, and partly to weak-mindedness on the mother's part. Reasoning with them proved of no avail, so the disease was allowed to run its course unchecked. I continued, however, to look up the child at intervals, and found that the disease progressed very irregularly. On some occasions I would find her able to be out of doors, playing about with other children, and indulging her appetite at these times to its full extent. On other occasions I would find her prostrated with weakness and confined to bed, skin cold, pulse weak, appetite completely gone, or almost so, complaining of pains in abdomen, which was tympanitic and oftentimes tender to the touch. Gradually rallying from this condition in the course of a week or so, she returned again to her former state. The bowels were usually irregular, but so far as I could learn, the urine was always passed in very large quantity.

About nine months after I first saw her, signs of diabetic cataract appeared in both eyes. This progressed rapidly, and in the course of two or three months more she was quite blind. I did not advise any operation on account both of the weak condition of the patient, and the knowledge I had of the careless way in which she was being managed. However, after the lapse of a few more months, some friends who took an interest in the case, and pitying her helpless state, urgently desired me to have her sent to the Glasgow Eye Infirmary, so that she might have the chance of something being done to restore her eyesight. I corresponded with Dr. Reid, who very kindly agreed to admit her, have her nursed carefully for a time, and afterwards, if her condition warranted, to operate. She was admitted in the beginning of October last, and after being in the hospital for a few weeks, Dr. Reid performed division of the anterior capsule of the lens in one eye. She progressed well after the operation, and returned home on the 10th November. A day or two after her return home she became worse (probably from being allowed to indulge her appetite to its full extent again) and died rather unexpectedly on the morning of the 14th November. I had not seen her in the interval, and could obtain no very definite account of the illness from the parents. It had evidently resembled some of her previous illnesses, and they had not taken alarm.

The case is interesting, both on account of the age of the patient and on account of the hereditary history. Cases of diabetes mellitus in children under 10 years are very rare—only a very few of such cases being placed on record. In most books on the Diseases of Children no notice is taken of the disease at all. West, in the fifth edition of his Treatise (I have not been able to refer to his later edition), states that he had only seen two cases of this disease in children, and he mentions that Dr. Prout, out of his immense experience of diseases of the urinary organs, which included 700 cases of diabetes, had only seen one instance of it in a child under 5 years, and only 12 cases between the ages of 8 and 20 years. Out of a total of 618 cases tabulated by Dr. L. Brunton in Reynold's *System of Medicine*, only 4 cases occurred in children under 10. Some few cases have been recorded in recent years, as will be found on referring to Neale's *Digest*—one of these occurring in a child of 21 months. See also a case recorded in *Brit. Med. Jour.* for February, 1885, and another in the *Glasg. Med. Jour.* for January, 1885. In the recent edition of Roberts' book on *Urinary and Renal Diseases*, page 225, statistics of the disease as occurring in persons of different ages will be found. These put rather a different aspect on the subject, inasmuch as it is shown that 133 deaths are certified as occurring from this disease in children under 10 years of age in the decade of 1851-60, 10 of these occurring in children under 1 year, and as many as 32 in children under 3 years. But these statistics are so much at variance with those compiled from other and more authentic sources, that their correctness may very well be doubted. Most of us are aware of the loose way in which death certificates are often filled in even at present, and still more would it be so during the decade referred to.

The influence of heredity in the etiology of the disease is now a well recognised factor. Roberts mentions that he has seen a considerable number of instances in which the disease has run in families, and quotes Sir H. Marsh, who knew a family where it could be traced back through four generations, and Schmitz of Neuenahr, who traced heredity in 248 cases out of 600. It seems, however, to be much more common to find the disease affecting two or three members of one generation than to find it passing down from one generation to another.

## CURRENT TOPICS.

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**OLD VOLUME AND NUMBER OF "GLASGOW MEDICAL JOURNAL" WANTED.**—The set of the *Glasgow Medical Journal* in the Surgeon-General's Library, Washington, wants Vol. I of 2nd series (1833) and No. 35, for October, 1861. Anyone who possesses and can spare the volume and the part or the volume to which it belongs will much oblige Dr. Billings by sending them to Dr. Russell, 1 Montrose Street, Glasgow, who will forward them.

### NOTES FROM PAISLEY.

**PAISLEY INFIRMARY.**—A number of annual reports of public interest lie before us. Of these, the most important is that of the Paisley Infirmary, which has now completed the 101st year of its existence as a corporate institution. During 1886, 925 patients received treatment in its wards, of which 109 were fever patients, mostly typhoid and scarlet fever cases. The death-rate was 5·4 per cent, and the average residence 35·3 days. In the Dispensary department, 5,090 out-door patients were seen, and these paid a total of 17,276 visits for advice. The total expenditure of the Infirmary was £3,316, and the Directors close the year with a debt of £639 to the bank. The endowment fund now amounts to £18,272. Mr. James Coats of Ferguslie has this year presented a thoroughly equipped ambulance waggon for the fever cases, similar to that given by his firm last year for general use in non-infectious cases. The Directors, having felt severely during the past year the pressure on the 110 beds at present at their disposal, propose to erect a new block in Infirmary Square, three storeys in height, to contain 70 beds. It appears, however, that the Local Authority also proposes to increase the present accommodation for fever cases by building, and as their present fever hospital stands in the same grounds, and indeed is under the same management as the Infirmary, it follows that the air space in this lung of the town which has been created by pulling down the old buildings behind the hospital, is likely to be largely encroached upon. Dr. Donald, the Medical Officer of Health, draws attention to this important fact in his report for last month, and suggests that one or other of the two bodies involved—viz., the Infirmary Directors and the Local Authority—should buy the other out. It is certain that this proposal will be met with strong objections on both sides; but it is also certain that there is not room in the

present confined space, hemmed in as it is on the one side by the sweet scented river, and on the other by busy streets, for the natural and healthy growth of the two institutions. Sooner or later, therefore, we shall have to face this solution of the problem, and with every addition to the present buildings it will become more expensive to do it. Sooner rather than later, in any case, the Local Authority will have to start a separate administration (which will, of course, require more building) because public opinion will not continue to permit the apparently certain spread of small-pox to the general wards, on the admission of small-pox patients into the small-pox wards.

Dr. Crawford has been appointed Dispensary Surgeon to the Infirmary in place of Dr. Wilson, who retires at the end of his two years' term of office.

**PAISLEY ASYLUM.**—The annual report of the Burgh Asylum is, on the whole, a favourable one. The daily average number of patients under treatment was fully 200, and the total number 270. There were 67 admissions, 36 per cent of which had had one or more previous attacks. The recovery rate (calculated on the admissions) was very high, being nearly 60 per cent, and the death-rate (calculated on the daily average) was low, being 7·15 per cent. There were unfortunately 3 deaths the result of accident, an unusually high proportion, as there were only 15 deaths in all. One of these cases escaped, and was found drowned, and two others, epileptics, were found dead in bed. We are glad, however, to learn from the report that at length two night attendants are to be appointed, so that as far as possible such accidents may be prevented in the future. Of the admissions, no less than 13 per cent were the result of excessive indulgence in alcohol, and it may be interesting to note in this connection that, according to Captain Sutherland's report, 872 apprehensions for being drunk and incapable were made in Paisley in 1886—that is to say, at the rate of 1 in 68 of the entire population. Dr. Fraser again draws special attention to the fact that of those discharged as recovered, practically all were less than a year in the asylum; more than a half were less than three months, and about a quarter were actually less than one month. And he points again to the hardship and the degradation of associating patients suffering from temporary mental derangement with idiots, dementes, and chronic maniacs. "The practical lesson, however, from this," he says, "would be, that early removal to an asylum or hospital for acute cases, transferred with as few legal formalities as possible, might save many from prolonged attacks or even chronic insanity."

**PAISLEY HOME FOR INCURABLES.**—The second annual report of the Home for Incurables, a charming little place, shows an increase in the number of patients from 4 to 14, and an expenditure of £272. The sum of £25 has been added to the endowment fund, and there is a credit balance of £117, so that the Home is to be congratulated on its exceptional financial position. Its subscribers are, however, few in number as yet, and it is not to be forgotten that the demands on its income are bound to increase. More than half of the inmates are suffering from disease of the brain or spinal cord, and the other cases admitted were—1 of chronic rheumatism, 1 of ulceration of the stomach, 1 of scrofulous disease of bone, and a feeble girl dwarfed and deformed from rickets.

FROM Dr. Donald's report we learn that in January Paisley had the high death-rate of 32.3 per 1,000, Glasgow coming in a bad second with 29.6. In February, however, the position is altered, and Paisley has only a death-rate of 22.5, whilst Glasgow heads the list with 28.

**AYRSHIRE MEDICAL CLUB.**—The annual meeting of the Ayrshire Medical Club was held in the King's Arms Hotel, Ayr, on the afternoon of Friday, the 4th ult. The venerable President (Dr. Ronald) occupied the chair. The minutes of last meeting were read by the Secretary (Dr. Moore), who also submitted the financial statement, which showed the funds of the club to be in a satisfactory condition. Four new members were admitted, so that the club now numbers over fifty members. Dr. Robertson of Ardrossan was elected President for the ensuing year, and Dr. Dobbie, Ayr, Vice-President. The members afterwards dined together, Dr. Ronald again presiding, Dr. Robertson acting as croupier. Amongst others present were—Drs. Blair, Dalry; Lyon, Darvel; Macleod, sen., Kilmarnock; Dobbie, Ayr; Erskine, Ayr; Thomson, Irvine; Moore, Ayr; M'Intyre, Troon; Watt, Ayr; Middleton, Crosshouse; Macdonald, Ardrossan; Lawrie, Ayr; Miller, Largs; Riddall, Ayr; Hewitt, Prestwick; Robertson, Waterside; Black Morrison, Ayr; MacLachlan, Ayr; Lawrence, Cumnock; Skae, Ayr County Asylum, &c., &c. After the usual loyal toasts, Dr. Dobbie, in a few appropriate and felicitous remarks, proposed "Success to the Ayrshire Medical Club." In doing so he referred to the good results proceeding from meetings such as theirs in the way of breaking down the asperities, and removing the misunderstandings which sometimes unfortunately did arise between medical practitioners, but which he trusted would be less likely to occur after the friendly converse and interchange of views which a club of this kind was

intended to promote. A most enjoyable evening was spent in the discussion of various topics and questions affecting the interests of the profession. Before separating, a hearty vote of thanks was, on the motion of Dr. Black Morrison, awarded to the Secretary for his valuable services in connection with the club, and, on the motion of Dr. Lawrence, a similar compliment was accorded the worthy Chairman.

THE CONSTITUTION AND CONSTITUTIONAL DISEASE OF MANKIND is the title of a work published in 1881 by the late Professor Beneke, of Marburg, who died in December, 1882. An anonymous friend has sent a number of copies of the book to those members of the profession, who may be supposed from their appointments and otherwise to be able, if they desire, to engage in similar researches. The volume is not a large one, and in fact was published at the request of professional brethren, who wished to have the results of Professor Beneke's long and laborious researches in a handy form. The researches, on which the work is based, were undertaken with the object of discovering what relationship existed between the anatomical conformation and the so-called "constitution" of the individual. A long series of most accurate and careful anthropometric observations constitutes one result of Professor Beneke's labours, and certainly the tables of measurements go far to prove his contention that the groundwork of the "constitution" lies in the relative proportional sizes of the different organs; and that the capacity for work on the part of the organism depends upon this volumetric relationship on the one hand, and on the nutrient materials supplied to the body on the other.

MESSRS. VANDENHECK AND RUPRECHT OF GÖTTINGEN publish quarterly *Bibliotheca Medico-Chirurgica*, edited by Gustav Ruprecht. Vol. xl., for 1886, consisting of four parts of about 450 pp., cr. 8vo., is in the press. Annual subscription (if paid in advance) 5s. post free. May be procured by all foreign booksellers. This valuable bibliography, now in its fortieth year, records, in each part, the titles of *all* new publications in medicine, surgery, and the collateral branches published during the preceding three months. These are classed under subject headings, and are followed by the titles of valuable original articles upon the same subject, found, during the like period, in medical journals. At the close of each yearly volume an index is added. The *Bibliotheca* is unparalleled in cheapness and completeness.

## CORRESPONDENCE.

*To the Editors of the Glasgow Medical Journal.*

SIRS.—For the following reasons, the abuse of the medical charities in Glasgow calls much more urgently for treatment than the question of the necessity for more hospital accommodation :-

1. The reports of the hospitals in the city (Royal and Western Infirmarys, Sick Children's Hospital, Maternity Hospital, Eye Infirmary, Ophthalmic Institution, Skin Hospital, Ear Hospital) for the year 1885-86, show a decrease of 443 individuals treated as compared with the previous year, while we find an increase of 10,000 individuals in attendance during the same time at the out-door departments or dispensaries of these institutions, together with the other dispensaries in the city (Medical Mission, Anderson's College Dispensary, Public Dispensary, Dispensary for Chest and Throat). The statistics, therefore, of these twelve medical charities demonstrate distinctly a diminution in the number of in-patients and a very large increase of out-patients during those twelve months.

2. The increase of dispensary patients is steadily maintained year by year. The fact that five of the above institutions (Western Infirmary, Anderson's College Dispensary, Public Dispensary, Ear Hospital, Sick Childrens' Hospital) came into existence within the last dozen years is very significant. Of course it will be noted that no dispensary yet exists in connection with the last named institution, but that want will soon be provided for.

3. The number of patients admitted into hospitals is limited by the definite number of beds, while the accommodation in dispensaries is unlimited and all comers are admitted. This may seem a truism not requiring statement, but it is worthy of note, because it points to the extent dispensaries may be thereby disabled in the discharge of the functions for which they exist.

4. The evil of overlapping of charities is much complained of, and while this applies to dispensaries it is impossible in hospitals, for a patient cannot make use of any more than one bed at one and the same time.

5. The cases in hospital are generally such as require treatment or operation which cannot be properly carried out in

ordinary practice, while those met with in the dispensaries form the usual run of general practice. For this reason, practitioners suffer from the indiscriminate admission of patients to the latter, for their *clientèle* wander thither and deprive them of the fees they can pay.

6. The systematic method of instruction pursued in the wards of hospitals is often not attempted, and is scarcely possible in the rooms of a dispensary. The student of medicine thereby suffers, because much valuable teaching material is not properly utilised, and he is initiated into a hurried and slipshod manner of dealing with cases which ought to be guarded against.

7. Neither can the diagnosis of a case be made, nor its treatment carried out with the necessary precision and care, so long as dispensary physicians and surgeons pass patients through their hands at the rate of about one every two minutes. The interests of patients, in so far as they are sick or suffering, and apart from their eligibility for other reasons, cannot be adequately attended to as matters exist at present.

The question that faces us just now with regard to these out-door medical charities is, How can they be best improved to the advantage of all concerned? They lack the organisation and control which can only be brought about by the affiliation or union of all medical charities to the hospitals, under the management of a representative general board of governors. The class of people who are able to pay a small fee regularly, but not the usual medical fees, can be best provided for upon the mutual assurance principle, that is, by provident dispensaries, the amount payable being fixed by wage.

It is noteworthy that this conclusion has been arrived at by the Medical Attendance Organisation Committee, which is presently sitting in London, under the presidency of Sir Spencer Wells, who, your contemporary the *Lancet* recently remarked, "has shown as much interest in the matter as if his future prospects were bound up with the movement." It is to be hoped that some of the leading members of the profession in Glasgow will take a similar interest in the subject, and thereby assist their less fortunate and younger brethren to remedy a state of matters to which they were comparative strangers in their early days.—I am, yours faithfully,

JAMES ERSKINE.

GLASGOW, 18th March, 1887.

## Obituary.

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### DR. EBEN. WATSON.

IN our issue of June last we noticed the death of Dr. Scott Orr, who was cut off suddenly when apparently in the enjoyment of perfect health. We have now to refer to the death of one still younger in the profession, who died in December last after a prolonged illness of eighteen months' duration.

Dr. Eben. Watson was born in Glasgow in 1823, and was the son of a well known Glasgow practitioner, Dr. James Watson. Having a wise man as his father, who understood the wants of the profession, he had every opportunity for study which the schools at home and abroad could offer. He graduated in Glasgow University in 1846, taking the combined degrees of A.M. and M.D. After his graduation he spent two years in further study, devoting himself specially to surgery. He studied with Sir Wm. Fergusson in London, forming with him a life-long friendship, and afterwards proceeded to Paris. He returned to Glasgow in 1848, and joined his father in practice. He early obtained the office of Surgeon to the Royal Infirmary, and about the year 1853 became Professor of Physiology in the Andersonian University. He actively carried on the duties of these two offices till within the last few years, and he is known to Glasgow men, in the double capacity of a skilful surgeon and a highly efficient lecturer on physiology.

Dr. Watson's contributions to medical literature were many. Perhaps his best known work is his book *On the Topical Medication of the Larynx in certain diseases of the Respiratory and Vocal Organs*, which he published in the year 1854. This work already showed that his special bent in surgery was towards diseases of the larynx, and we find in subsequent years that he published papers "On Laryngoscopy," "On Aphony," &c. Indeed his first published work, which was a probationary essay in joining the Faculty of Physicians and Surgeons, Glasgow, is "On the Organ of the Human Voice," published in 1848.

Dr. Watson took an active part in the proceedings which in 1868 resulted in the establishment of the present series of the *Glasgow Medical Journal*. He was one of those who, at that time, in order to prevent the possibility of the *Journal* failing in its issue, subscribed to a guarantee fund to meet

possible loss. Fortunately this fund was never called up, as the *Journal* has succeeded in paying its way from that time to this, but the public spirit of the guarantors was not the less to be commended. Dr. Watson was a frequent contributor to the *Journal*, especially in the earlier years of its existence, his subjects having usually a surgical bearing. His latest paper in our pages was "On the Treatment of Stricture of the Urethra," published in 1880, a paper which attracted some attention at the time.

Dr. Watson was a man of very pronounced personality, and was not infrequently engaged in sharp controversy with his fellows. But there was always a vein of kindness discoverable beneath his outspokenness, and he never stooped to any mean or underhand action.

In the course of his life, Dr. Watson held many public offices. He was for many years an Examiner in Physiology in the Faculty of Physicians and Surgeons, and he also filled the office of President of that body. Dr. Watson also attained to the dignity of President of the Medico-Chirurgical Society of Glasgow. He was known as an exceptionally able speaker, and as a lecturer, although he did not commit his lectures to writing, he was highly esteemed for the lucidity of his style.

In his private life Dr. Watson was much respected and loved by those who knew him. He was a kind husband and an honoured father. He is survived by his widow, one son, and four daughters.

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## REVIEWS.

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*Clinical Manual for the Study of Medical Cases.* Edited by JAS. FINLAYSON, M.D. Second edition. 1886.

THE appearance of a second edition of this admirable manual within so comparatively brief a space of time is of itself a proof of the value of the work. And perhaps we owe to the editor some apology for delay in noticing it. But we have already, in a former review, given a general outline of its scope, and we may repeat, with additional emphasis, the commendations then bestowed. What we have to say, by way of criticism, may be perhaps suggestive of some amendments or additions in the third edition.

The second edition presents a marked advance on its

predecessor. Much new material has been introduced, many sections entirely, or in great part, re-written and brought up to date, and the number of illustrations nearly doubled. In the case of some subjects upon which there has been much recent work, this has involved a great extension of the sections, and some of these are amongst the best parts of the book. The bibliography has been thoroughly revised, and should prove most useful to the intelligent student. In fact, taken as a whole, it may be safely affirmed that there is no book in the English language, nor, so far as we are aware, in French or German, similar in scope and intention and covering the same ground, which is at all to be compared with it.

Such being the case, it may be well to inquire to what extent it fulfils its purpose. This is best determined either by actual trial, as by placing oneself in the position of the student of average intelligence who is commencing the study of clinical medicine. What he needs is a book which will give him an intelligent idea of the purpose of clinical observation, which will serve as a guide both in ordinary and in difficult investigations, will explain novel phrases, and will describe instruments and their mode of use. To a very large extent a book for reference only, not for systematic perusal, is requisite. A simple and exact account of the numerous instruments now employed in clinical medicine, the *rationale* of their use, the methods of procedure in chemical analyses, &c., is invaluable, because these are not described, or are incompletely described, in works on systematic medicine. And we may at once say that the sections devoted to these subjects are, almost without exception, extremely well done. They are accurate, sufficiently complete, and readily understood. But, in many respects, it would be a great improvement if these were placed together under the headings respectively of "Instruments of Clinical Research" and "Methods of Analysis."

But these, after all, constitute but a small part of the book. The primary object of a clinical manual is to teach the student how to observe, what to observe, and what inferences to draw from the observations, and thus to serve both as introduction and complement to systematic works. No task is more difficult than to define the limit between the systematic and the clinical. They must overlap, and there is always a tendency to introduce too much exact knowledge or to assume that the student already possesses it. This, and the great difficulty in keeping to any rigid line of separation, accounts, in part, for the inequality in different sections, and introduces a certain degree of confusion. Thus, systematic descriptions,

such as those given of various forms of Insanity, whilst admirable in themselves, appear to be out of place in a work of this kind, and can only be justified by the too general neglect of the subject of mental disease in ordinary works on medicine.

Turning now to the general order of the book, we think it may be safely asserted that the recommendation to the student to read first the first three chapters is likely to arrest his future study. In fact, we have applied the test, and have found that the first chapter has usually convinced the student that the book is too advanced for his state of knowledge. This essay on the "Physiognomy of Disease," by Professor Gairdner, rightly holds the place of honour, for it is an admirable and philosophical study. But in order to appreciate, or even to understand it, the student must have some knowledge of disease, and must understand many words that he has never before heard. It may be commended to the more advanced student and to the practitioner as of great interest and value.

Chapters II and III, on Case Taking, Pulse, Temperature, &c., should come first in the student's reading; but the modesty of the editor no doubt prevented him from giving his own work the precedence. In these chapters, otherwise highly commendable, the initial error of taking a bad order for study is made, and this leads to one of the greatest defects in the book. Chapter IV, on the Skin, Glands, Joints, Bones, &c., is rightly placed, but detains the student too much with the minute description of various skin diseases, which would be better postponed, and might be abbreviated. Following these in order of study one would have expected some of the more elementary facts as to disorders of circulation and respiration; instead of which no less than 205 pages are devoted to the nervous system, beginning with the special senses and ending with insanity. It would have been better to place these at a much later period. Disorders of the special senses and of the cranial nerves are well described in Chapter V, though in some cases words are used which are not elsewhere defined—*e.g.*, "scotoma," in p. 198.

Chapter VI is by far the weakest in the book. It contains much valuable material, but is entirely wanting in system. There is a total absence of method, both as to the grouping of symptoms and as to anatomical distribution. Thus, we pass from the indications afforded by rising from the sitting or recumbent posture direct to aphasia, and, without warning, back to paralysis of the bladder and rectum. A few plain directions to the student as to the proper order and method of

examination in a case, say, of hemiplegia or of paraplegia, would here be of the greatest service. Here, too, some general statement of the common grouping of symptoms would not only be justifiable, but is essential. And the introduction of two or three diagrams illustrative of the topography of cerebral and spinal lesions would be of great service.

The only other chapter to which we would refer is that on the Physical Examination of the Chest and Abdomen. This is, upon the whole, excellent; but we may note that the section upon auscultation of breath sounds is very incomplete (which may, perhaps, be justified on the ground that they can only be learned by practice), and that it contains some notable errors, most of which are contradicted elsewhere.

What we have said by way of criticism refers after all to points which are but as spots upon the sun, and they serve to emphasise the general excellence of the book as a whole. We have not the slightest doubt that it will become the standard work upon the subject for some years to come, and our only desire is to render it still more perfect in future editions.

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*Massage as a Mode of Treatment.* By WILLIAM MURRELL, M.D., Second Edition. London: H. K. Lewis. 1887.

IT would appear that the art of medical rubbing, or massage, long lost to the profession generally, as a mode of treatment, has, in these later days, been revived, and is becoming—if it has not, indeed, become—fashionable. By and by it may become scientific, and what is in it of real value preserved to the profession. The medical rubbing practised chiefly in hydropathic institutions by ignorant charlatans has been always with us; but the sort of thing illustrated and explained by Dr. Murrell in his very readable and withal suggestive book, is something of a much more pretentious and systematic character, and is almost entirely of continental growth. It is, no doubt, to the remarkable success of the “Weir Mitchell treatment” in the cure of hysterical or neurasthenic cases that we owe the present professional and popular interest in massage, which is the important element in this mode of treatment. To the interest thus excited, we presume, is due the fact that a second edition of this book has been required so soon after the appearance of the first, which only came into our hands a few months ago. The massage, however, which, in the hands of Drs. Weir Mitchell and Playfair, has yielded such excellent results, appears to be somewhat different.

Dr. Mitchell's description of the process of massage given in "Fat and Blood" is plain and clear; there is not a particle of mystery about it. The directions how to rub, grasp, and pinch the skin and muscles are such as can be easily followed by any intelligent nurse with a good touch. In our own experience we have had very satisfactory results from nurses who never "rubbed" until we taught them how to do it from the above directions. This, too, is the experience of Playfair. Dr. Murrell, however, states in his preface: "Applicants are often anything but pleased when they are told that it takes at least two years to learn, and that many people, from lack of aptitude or defective general education, never succeed in acquiring it."

The method of performing this difficult art is detailed in chap. iii, where we are introduced to the mysteries of "*effleurage*," "a stroking movement made with the palm of the hand passing with various degrees of force over the surface centripetally," &c. This stroking movement "should never degenerate into mere rubbing." No wonder it takes some time to learn. Still more difficult, however, is the next part of the process, which is "*pétrissage*," which "consists essentially in picking up a portion of muscle or other tissue with both hands, or the fingers of one hand, and subjecting it to firm pressure, rolling it at the same time between the fingers and the subjacent tissues." We shall not trouble our readers with more than the names of the other processes, which are—"friction" or "*massage à frictions*," and "*Tapotement*."

The following is the description of the persons who are competent, after two years' practice or training, to become efficient "*masseurs*" or "*masseuses*." This description is quoted with approval by our author from Dr. Benjamin Lee.

They "must possess, firstly, vigorous health; secondly, muscular strength; thirdly, a cheerful temperament, a pleasant face, and an acceptable manner; fourthly, a soft and pliant but strong hand; fifthly, a fair education and a certain amount of refinement; sixthly, a knowledge of the leading facts of anatomy, such as the position of the various organs, the course of the circulation, and the general processes of nutrition; and seventhly and lastly, an acquaintance with the effects produced by the different forms of manipulation, the order in which these different forms should be employed to produce certain general effects, the injury which may be inflicted by employing them improperly or out of their proper order, and a practical dexterity in their application to be attained only by training under an experienced instructor."

As opposed to this, and as showing how in this country we don't do it, we have the following:—

“A short time ago, on asking a medical friend if he used massage much in his practice, he replied:—‘Oh yes, a great deal; my butler does it.’ After that I should not have been at all surprised to hear that the electrical treatment was conducted by his footman, and that the kitchen maid undertook the obstetric cases.

“The so-called massage practised in some of the hospitals, and under the auspices of some of the nursing institutions, is a painful exhibition of ignorance and incompetence, being simply a degenerate form of rubbing or shampooing.”

Yes, no doubt something very different from the practice of the esoteric massage, as performed by a superior person with pleasant face described in the pages of Dr. Murrell. Something very different, as he admits, from the massage of the Weir Mitchell system. After this, it is not surprising to read, towards the end of the book, a quotation from a work of Dr. Walter Johnson, of Great Malvern, on the *Anatropic Art*. How Greek gives dignity to the too common word “rubbing!” Dr. Johnson's statement is, that “there is a way of rubbing which irritates and excites the nerves; and an unskilled rubber, rubbing in this manner, will do *frightful mischief*.” [The italics are ours.] Then follows a story of a lady with spinal weakness—whatever that may mean—who was so rubbed, and who, in consequence, grew so ill that Dr. Johnson was sent for, who “found her suffering from acute congestion of the brain, produced entirely by the injudicious rubbing.”

This very marvellous result of rubbing a woman the wrong way should very effectually deter the ordinary medical practitioner from having anything to do with this occult art.

It is not to be supposed, from what we have said, that Dr. Murrell's book is not worth reading, or that massage is humbug, or that it is so simple that the butler or the stable boy can necessarily do it. The book will repay reading, and, as a pleasantly written sketch of massage and its applications, it can be recommended to our readers, and may be helpful to them in many chronic and troublesome affections, if only they can secure a decent operator, who need only be, despite Dr. Murrell, a sensible nurse or attendant.

In the preface Dr. Murrell tells us that the second edition has been rewritten, and numerous cases, which have been recently under observation have been added.

We shall hail with great satisfaction the appearance of a

third edition, which will be not a mere sketchy account of Moseneilian massage, but a solid English contribution towards the appraisement of the scientific and therapeutical value of massage as a mode of treatment.

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*The Surgeon's Pocket Book: An Essay on the Best Treatment of Wounded in War.* By SURGEON-MAJOR J. H. PORTER. Third Edition. Revised and edited by BRIGADE-SURGEON C. H. Y. GODWIN. London: Charles Griffin & Co. 1887.

THE new edition of Surgeon Porter's well known *Pocket Book* has been revised and edited by his successor in the post of Assistant-Professor of Military Surgery at Netley, Surgeon Godwin. It retains all the excellent features it possessed in former editions (commented on by us in previous reviews), and has some few new ones, which we will briefly notice. As a frontispiece we have a semi-diagrammatic representation of a field of battle, showing the relative position of the combatants at the commencement of the action, with the arrangement of the collecting stations, dressing stations, and field hospitals, and the posts occupied by the several surgeons and bearer companies. Being from the pencil of Surgeon-Major Evatt, whose diagrams are not unknown to our readers, we need say nothing as to its accuracy and clearness. The editor has especially directed his attention to the important subject of antiseptic treatment on the field of battle and in field hospitals. Unfortunately, he seems to have had no actual experience of antiseptic treatment, and is consequently obliged to rely upon the statements of others. He gives long extracts from Mr. Watson Cheyne and Sir William M'Cormac, but emits no definite opinion as to how far their propositions can be carried out in the trying circumstances under which the military surgeon has to act. The chief fault we have to find with the book is that it is too purely a compilation; scarcely a page but is disfigured by quotation marks, and here and there we come on several pages consecutively consisting entirely of extracts, held together by only a few words by the author or editor. This evil was always noticeable in the work, but under Surgeon Godwin's editorship it is more marked than ever. One important addition is contained in an appendix, and consists of the "Instructions for Preparing and Applying Antiseptic Bandage Material (Sublimate Gauze)," issued to the medical department of the German army in 1886. In another appendix we have the list of supplies sent up the

Nile in each boat in the unfortunate Soudan expedition of 1884-5.

We find no mention of the supra-pubic method of opening the bladder, although it appears to us that in the case of a bullet or splinter of shell lodged in the bladder, it would be reached and removed easier by this than by the perineal wound.

The author's opinion of trephining the spine for paralysis, the result of injury, is, on the whole, unfavourable, although he admits that there have been some very successful cases. His main objection to it seems to be that "the operation is one attended by considerable trouble and difficulty, and when completed it may be discovered that the cause of the compression is out of reach, being displacement of a body of a vertebra instead of depression of an arch or process." He does not seem to see that the removal of the arch may serve to relieve pressure, even though the body be the displaced portion of the spine.

The solutions of corrosive sublimate recommended for washing and injecting into wounds are invariably too strong, and are calculated to produce constitutional symptoms.

The book is convenient in form, well printed and bound, and is a most convenient pocket volume. It would be much more useful if more authoritatively and dogmatically written. So many theories and methods are given that the reader is left in a maze of uncertainty as to what course he should pursue in a given case.

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*On Aphasia.* By JAMES ROSS, M.D. London: J. & A. Churchill. 1887.

In this work the author has made a very valuable addition to the literature of his subject. The first part of the book—which is chiefly taken up with the description of a number of cases of motor and sensory aphasia—is both interesting and valuable as a groundwork for what follows. He then gives us a lucid description of the morbid anatomy of the various forms in sixteen pages. The rest of the book, about one-half, is taken up with a most interesting discussion of the morbid physiology, or, indeed, we should say of both the normal and morbid physiology. This part we feel to be really exciting reading, as it rouses one to take the opposite side of the argument; and one requires to have his wits about him to defend his position against such an opponent.

To turn to some of the points on which we are inclined to hold a different view: Dr. Ross says that motor "Aphasia is the result of a genuine paralysis," in contradistinction to a want of co-ordination. In this, we think, there is much truth, but not the whole truth, as in motor agraphia the power to copy writing may exist, showing that the muscles used in writing are not paralysed. It is not so easy in aphemia to distinguish whether the defect is the result of a paralysis or of a want of co-ordinating power. Dr. Ross defends his position from the standpoint of aphemia, and then says that what is true of aphemia is true of agraphia. We would be inclined to reply that what is true of agraphia must also be true of aphemia. On the whole, Dr. Ross on this point seems to make too much use of the *petitio principii*.

The author then turns our attention to aphasia caused by defects in the sensory mechanisms of speech, to which he gives the name "apperceptive aphasia." To this name we are inclined to object, on the ground that it is wrong to speak of the function of the centres involved as the "apperceptive department of the sensory function of speech," for we believe that the whole range of the function of language may act without consciousness being present, as in talking during sleep and in mesmeric conditions. The whole question as to when consciousness comes in is such an unexplored field of this subject that we think Dr. Ross would do better to avoid names which imply consciousness or the absence of it.

Our author maintains that this form, which he names "apperceptive aphasia," is a sensory paralysis in the same way that aphemia and motor agraphia are a motor paralysis. We are inclined to hold the view that the various forms of both motor and sensory aphasia are due to paralysis variously combined with inco-ordination. We do not think that all the cases can be explained by pure paralysis.

From his statements towards the end of the book we wonder whether Dr. Ross believes that flies, snails, and frogs think? and is he clear as to when, in the scale of animal life, the power of consciousness and of thinking begins? We believe with him that animals high in the scale do think and are conscious, but we should never attempt to prove it. We consider him wise when he says, "We shall not waste time in proving that animals think." We fear that, to do this, he would require to go back to Balaam's ass for the proof.

Our author has, indeed, given us a great deal to think about, and we highly recommend the book to our readers as a most able exposition of the matter; and we hope our criticism of

some minor points will only induce them to study it for themselves.

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*The Parasites of Man and the Diseases which proceed from them.* By RUDOLF LEUCKART; translated from the German, with the co-operation of the author, by WM. E. HOYLE, M.A., F.R.S.E. Natural History of Parasites in General; Systematic Account of the Parasites infesting Man. Protozoa—Cestoda. Edinburgh: Young J. Pentland. 1886.

HAVING been long familiar with this work in the original, and having regarded it as undoubtedly the only complete work on Animal Parasites in any language, we welcome it cordially in its English translation. We may say at once that the translation is thoroughly well done. The book reads well, and tells the interesting story of the parasites in an interesting form. The story is a most interesting and enticing one, in which are detailed the extraordinary migrations and metamorphoses which these animals undergo during their lives in different hosts. The story is told by a master. This is particularly seen in the more general parts of the work, as in the introductory chapters dealing with the natural history of parasites, or in the chapters introductory to the various sections, where the fertility of illustration shows the writer to have his subject thoroughly in hand, so that he can look around and choose his examples with effect.

The author tells us in his preface that he has devoted his labours to this subject for more than thirty years, and he adds that his work "contains little which does not rest upon the basis of personal observation." The industry and opportunities of the author must have been very exceptional to enable him to accumulate an experience such as this even in thirty years.

The title of the work is perhaps a little misleading, in respect that it is only animal parasites which are here considered. He confines his use of the term parasites entirely to "animals living as parasites upon other animals." We have a further fault to find with the title page—that, while this is only the first volume of Leuckart's work, there is no indication of this fact in the title except the two headings at the bottom: "Natural History of Parasites in General; Systematic Account of the Parasites infesting Man. Protozoa—Cestoda." We are left to gather from the preface that the second volume is in preparation. As the present volume is in no sense a complete

work in itself, the fact that it is Vol. I ought surely to be stated on the title and back of the book.

We have to add, by way of commendation, that the book is profusely illustrated by woodcuts. They are nearly all excellent, and they number no less than 404. There is a very useful alphabetical list of the illustrations, and the usual general index at the end of the volume is full and satisfactory, as we have found by testing it in several cases.

In recommending this work to the practitioner, it may be stated that it is practical as well as scientific in its object. The symptoms produced by the various parasites are given, and the prophylaxis, as well as to some extent the treatment, are duly considered.

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*Sœur Jeanne Des Anges. Supérieure des Ursulines de Loudon. Autobiographie d'une Hystérique Possédée. Annotée et publiée par les docteurs G. LEGUÉ et GILLES DE LA TOURETTE.*

THIS history was originally written to justify the condemnation of Urbain Grandier, who was convicted of bewitching Mdlle. de Belcier, the Sœur Jeanne of the narrative.

It is now edited from the unpublished MS., and forms part of Dr. Bourneville's *Bibliothèque Diabolique*.

M. Charcot tells us, in a short preface, that such cases enable us to assert that hysteria, so far from being the essentially protean disease described by some authors, not only preserves its individuality from century to century, but also shows itself, in a certain way, unvarying even in its smallest details. This is no doubt true, but it also seems to show that in the seventeenth century, as now at the Salpêtrière, the features of *Hysterie* are in large measure the result of direct imitation. A case in all respects like the one before us occurred, also in an Ursuline convent, earlier in the same century, when a *curé*, named Gaufridi, was burnt alive for having bewitched a nun. The conviction being obtained by the axiom that "a demon duly exorcised is bound to speak the truth," it is easy to understand how easy it was, in this way, from the hysterical ravings of an erotic and desperate woman, to prove the guilt of the object of her slighted affections. Grandier was burnt alive in 1634, but even this did not cure the unfortunate Sœur Jeanne. Her symptoms spread to the rest of the nuns in her convent, and the epidemic might have spread, as it did through the German

convents in the sixteenth century, but for a timely act of quarantine by the Archbishop of Bordeaux, who sequestered the nuns. The book is one of interest to neurologists and psychologists, for the case exhibits the classical features of *hysterie*, "even in its smallest details," such as convulsions, anaesthesia, paralyses, and even pseudo-pregnancy. But, if interesting, it is also painful and disgusting, as the confessions of such a subject must be. The volume is well got up, and, for a French book, wonderfully free from typographical errors.

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*The Normal and Pathological Histology of the Human Eye and Eyelids.* By C. FRED. POLLOCK, M.D. With 230 Original Drawings by the Author (lithographed in black and colours). London: J. & A. Churchill. 1886.

WE are very pleased to welcome this as a substantial piece of good work by a young Glasgow man. The work is, perhaps, more intended for the specialist than for the general practitioner, but at present, when all graduates may be expected to have a fair knowledge of histology, it will be a useful and readable book in their hands.

The lithographic illustrations, which number no less than 230, and are executed by Oatts & Runciman, in Glasgow, are, perhaps, the most important feature in the book, and give it a permanent value as a register of actual appearances. We envy the author his facility in the use of the pencil as shown in these drawings. They are drawn with a degree of delicacy and effect which is very admirable. As nearly all the illustrations are from cases of disease, it may be inferred that a large part of the pathology of the eye is gone over.

We trust that Dr. Pollock's book will have the success which it very well deserves.

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*A Text-book of Pathological Anatomy and Pathogenesis.*  
By ERNST ZIEGLER. Translated and Edited for English Students by DONALD MACALISTER, M.A., M.D. Part II. Section IX-XII. London: Macmillan & Co. 1886.

WE have already, in noticing the two former portions of this work, commented on the excellent quality of it. The present volume includes the Pathological Anatomy of the Urinary Organs, the Respiratory Organs, and the Nervous System. It must be said that the translator has had a somewhat

difficult task in dealing with Ziegler's book. The success of it in Germany has been such that edition after edition has appeared in rapid succession, each with considerable alterations and additions, the industry of the author being commensurate with the success of the book. This has delayed the translator in his work and has handicapped him in his attempt to give the book in its newest form. We may illustrate this by the illustrations. Ziegler has taken, in the last edition, to printing some of his woodcuts in colours, a practice which the translator has wisely refrained from following. It is more remarkable that the English edition contains in this part more than 20 woodcuts fewer than the German. We have also as a frequent consultant of the work to enter our protest against the index in this translation being made to refer to articles and not pages. The reason of this we fail to see, especially as the articles in the translation do not bear the numbers of those in the original.

As before, we have to commend the manner of the translation and to express a hope that the remaining part may be issued, although the preface scarcely encourages the expectation.

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## MEETINGS OF SOCIETIES.

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### MEDICO-CHIRURGICAL SOCIETY.

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SESSION 1886-87.

MEETING V.—14TH JANUARY, 1887.

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DR. COATS, *Vice-President, Pathological Section, in the Chair.*

#### I.—MYOMA OF THE UTERUS.

BY DR. ALEX. PATTERSON.

A myoma of the uterus removed from an unmarried woman 25 years of age. Before the operation the case looked as if it were ovarian. The tumour moved from side to side, and the uterus could also be moved with comparative ease.

Dr. Coats said that on microscopic examination the tumour was seen to have the regular structure of the myoma, and this was illustrated under the microscopes on the table.

## II.—EXTRA-UTERINE PREGNANCY.

By MR. J. T. CARTER.

Mr. J. T. Carter exhibited three slabs from the frozen body of a woman who died during extra-uterine pregnancy. At the next meeting of the Obstetrical Section of the Society he proposed to make some remarks on the case.

## III.—ON SENILE CHANGES IN THE ARTERIES AND TRUE OSSIFICATION OF THE ARTERIAL COATS.

By DR. JOSEPH COATS. (See page 265.)

*Dr. Macewen* said that the formation of bone in the interior of the artery was certainly very remarkable. In the Museum of the Royal Infirmary there was a specimen in which the whole of the artery appeared to be a calcareous mass. Atheroma was more likely to affect the smaller vessels than the larger ones, but this was not so in the case referred to by Dr. Coats. There was atheroma of the thoracic aorta and none of the abdominal. This was surely unusual. He had seen a case in the Town's Hospital of a female in which the arteries were very calcareous, and he thought that the abdominal artery was generally affected in these cases. The calcareous deposit bored its way into the blood-vessels and projected into them. In a case in the Town's Hospital he noticed that there was coagulation in the artery at the point where the calcareous mass projected into it. It occurred to him that possibly his manipulation may have caused the formation of this clot. He would like Dr. Robertson to inform the Society if an examination of the condition of the arteries outside the brain could afford any criterion of the state of those inside.

*Dr. Robertson* said, in reply to Dr. Macewen's question, that the result of his investigations on the point was this, that while diseased arteries outside the brain were a pretty sure index of degeneration of those within the cranium, the converse did not hold good. The intra-cranial arteries might be in a diseased condition, while those without were soft and normal.

*Mr. Carter* said that he would like to hear Dr. Coats' explanation of the process of the formation of bone from connective tissue.

*Dr. M'Vail* said that the distinction between calcareous deposit and atheroma was rather fine; and the two terms were usually regarded as indicating the same process. Did Dr. Coats mean to imply that the processes were separate

from the beginning, and remained separate throughout? Did the changes begin in the connective tissue? In regard to twisted vessels, his observation enabled him to say that they were invariably associated with pulmonary emphysema, and this apart from any question of chronic bronchitis. In a number of cases there was no bronchitis; but there was a condition in which the elasticity of the connective tissue was impaired, but no notable degeneration of the tissue of the lung.

*Dr. Newman* said that he was not quite sure that it was bone tissue which was seen in this case in the section under the microscope. He had seen two instances of something of the same kind of changes which Dr. Coats had described; but on placing the specimens under a polariscope, it was brought out that the clear spaces were not occupied by bone, but by crystals of some salt of lime, and his idea was that the appearance of canaliculi was given by the splitting apart of the fibrous tissue. He would, therefore, like that these specimens should be examined by the polariscope.\*

*Dr. Steven* said that the idea underlying Dr. Coats' paper was that calcareous infiltration of the arteries was evidence of senile change. But they were met with the difficulty that they had, as the result of presumed senile degeneration, the development from connective tissue of a higher form of tissue —viz., bone. In connection with fractures, it was a matter of clinical experience that in old persons the process of repair was much more imperfect than in the young, for the reason that they had a condition in which the tissues had been going on towards death; yet here was a development of tissue implying a condition of activity and vitality.

*Dr. Coats* replied to the questions which had been put to him, and in doing so pointed out that calcareous deposit implied that the tissues had become obsolete. It was not an independent condition, and was to be seen in connection with atheroma. As to bone being a higher tissue than connective tissue, he thought the terms "higher" and "lower" were misapplied in such a case, and the analogy of the development of bone tissue was misleading. He defined atheroma to be, pathologically, a lesion of the internal coat of the artery, with great thickening of that coat, resulting from inflammation, and accompanied by degenerative changes. He had no doubt of the substance shown under the microscope being truly bone, and not a crystalline salt.

\* Dr. Newman, from subsequent examination, has satisfied himself that it is true bone.

## IV.—CASE OF APHASIA.

By DR. ALEXANDER ROBERTSON.

A Tumour of the Brain, about the size of a marble, involving Broca's region and its neighbourhood, was shown. The patient showed no decided aphasia, but there was perceptible defect in language. He could remember words quite well, but had a great difficulty in giving expression to them. This was his condition before a convulsive seizure set in; after this occurred, he was speechless and unconscious. Why should there not have been greater defect in language? The answer to that is, that, in the first instance, it was a growth rather than a haemorrhage into the part, or a softening of the tissues. The fibres would probably for the most part be pushed aside, not destroyed, though there must have been some destruction of the vesicular elements. When the inflammatory congestion set in, more decided symptoms appeared. The form of aphasia was the ataxic. The patient had plenty of language in the mind. He knew what to say, but could not say it, unless with much deliberation and effort, and even then, only imperfectly. The fact that there was clear thought in the mind, indicated that there was language in some form. He agreed with the opinion of Max Müller, Mill, Schelling, Des Cartes, and others, that in order to the conception of definite thought, thought in the shape of reasoning language was necessary. This view he advocated 20 years ago, that in the minds of intelligent and reasoning aphasics there must be thought, and that the defect was one of expression and not of the conception of language. This position he maintained in different publications, and it was adopted by Charlton Bastian, with acknowledgment, besides other writers. It was in opposition to the opinion held by Rousseau who believed that in such patients there was loss of the memory of words. Dr. Robertson said that he did not now, as he did then, maintain that in cases of ataxic aphasia the essential lesion was in the white fibres that pass outwards towards the medulla oblongata from Broca's region, rather than in the grey matter of that region. Still, it had been pretty well established that lesion of these fibres together with those that pass to the corresponding part of the opposite hemisphere is sufficient to induce the ataxic form of aphasia, and further, that in some cases this is the sole lesion present. But it must be conceded that in the great majority of cases the symptom is due to the defect in the grey matter of the convolutions. Unfortunately, during the brief period between

the patient's admission and the occurrence of the fatal attack his power of writing was not tested, and he could not therefore say whether there was a corresponding degree of agraphia present to that of aphemia. But there was amnesia or defect in expression by signs, this power being often perfect when the capability of expression by words or by written signs was in complete abeyance. He had at present a patient in the Royal Infirmary, who, though unable to say "yes" or "no," was most demonstrative by signs, though their meaning could not be made out. In that case amnesia and ataxic aphasia were probably both present. They were aware that the lesion in amnesic aphasia was further back than in the ataxic form, being usually found about the centre of the parietal or upper part of the temporo-sphenoidal, and often involving both regions. The state of the optic fundus in the case he had been describing was not ascertained.

A committee was appointed to examine the specimen and to report.

**V.—PRIMARY SARCOMA OF DIAPHRAGM, WITH SECONDARY DEPOSITS IN SKULL AND FEMUR, LEADING TO FRACTURE OF THE LATTER BONE.**

BY DR. DALZELL.

A Primary Sarcoma of the Diaphragm, with Secondary Deposits in the Skull and Femur, leading to Fracture of the Latter Bone, was shown. He said that the specimens were obtained from the body of a woman, age 42, who died in the Royal Infirmary, where she had been admitted suffering from simple fracture of the right femur, a little above its middle. She suffered also from bronchitis, and exhibited symptoms of cerebral derangement, on account of which an accurate history, either of preceding affections or of the accident itself, could not be obtained. It appears, however, that the fracture of the femur had occurred while waltzing across the kitchen floor. Previous to the accident pain had been complained of in the right thigh for several months. Death occurred three weeks after admission to the hospital.

*Summary of post-mortem examination.*—The pericardium contained about  $\frac{1}{4}$  oz. of serous fluid; there was slight mitral stenosis; otherwise the valves and myocardium were normal. The right lung was firmly adherent at its base to the diaphragm and chest wall, and slightly so at the apex from a few old pleuritic adhesions. The right half of the diaphragm was more or less replaced by a mass of new growth measuring from

1½-2 inches in thickness, firmly adherent to the upper surface of the diaphragm and infiltrating the lower lobe of the lung. This tumour formation cuts with a gritty feel, and presents a whitish or pinkish white smooth surface yielding a copious creamy juice. The whole lower lobe of the right lung was firm and non-crepitant, with a mottled dark grey and white appearance from the infiltration of the neighbouring neoplasm. The lung substance otherwise was markedly oedematous, the bronchi almost filled with muco-purulent or sero-purulent material, while the mucous membrane was deeply congested and roughened; the left lung, apart from the neoplastic infiltration, was in a condition similar to the right. The bronchial lymphatic glands were somewhat enlarged, of a dark grey colour, but with no appearance of tumour formation. There were several secondary deposits in the liver, appearing as white succulent nodules scattered throughout its substance, and a few on the surface of the organ; these nodules varied in size from a bean to a walnut. The other abdominal organs presented nothing of importance.

On removing the scalp, a somewhat soft resilient tumour of the skull, immediately in front of the left parietal eminence, was exposed, measuring 1½ inch in diameter, of circular form, and projecting about ½ inch above the level of the surface of the skull; a second tumour, similar to, though smaller than the preceding, was situated about ½ inch above the left orbital ridge. The dura mater was firmly adherent to these growths, and the entire thickness of the skull is involved, so that pressure applied externally is readily communicated to the interior of the skull. Their structure is, for the most part, of soft cellular material, but with numerous minute avascular bony spicules scattered on the surface and throughout their substance, with the appearance, however, rather of necrotic portions of bone than of new formation. There was no appearance of inflammatory action on the cerebral surface of the dura mater or of the membranes generally. The cerebral veins were filled with dark fluid blood, while the cerebro-spinal fluid was markedly increased in amount, and the ventricles somewhat distended.

There was a fracture of the femur on the right side, with no appearance of union. A slight thickening at the seat of fracture could be felt as if from callus formation.

On cutting down, and removing a mass of fairly normal callus, the femur at the seat of fracture was found to be almost entirely destroyed, and replaced by a softish new growth for a distance of about 2 inches, except at one side,

where a thin shell of bone, about  $\frac{3}{4}$  inch in breadth, persisted, and through which fracture had occurred. This tumour, similar in character to that found in the skull, projected little beyond the natural outline of the femur, with the margin of which it was firmly adherent, so that the substance of the tumour seemed to blend imperceptibly into the normal bone.

*Microscopically.*—The primary and secondary tumours have a similar structure, composed of masses of small round cells in a fine fibrous meshwork. These cells are somewhat larger than a white blood corpuscle, and possess a large nucleus. Their size is uniform, and the intercellular substance is small in amount. Minute blood-vessels may be observed in the interior of these cellular masses. In the diaphragmatic tumour a few shreds of muscular tissue are to be found.

*Remarks.*—The case is an interesting one from (1) the occurrence of the sarcoma, probably primary in the diaphragm; (2) as an example of the tendency certain sarcomas have to make a special selection of the bones, especially the skull, as the seats of metastases; (3) the disproportionate destruction of bone relative to the size of the neoplasm; and lastly (4), the occurrence of fracture of the femur from a tumour formation so small as to be unrecognisable from external examination. The diaphragmatic tumour was probably the primary one for the following reasons:—Its magnitude and age, as indicated by the extensive infiltration of the lung substance by direct continuity of structure. There were no metastatic deposits in the lungs, as would have been probable had one of the bone tumours been the primary one. The tumours of the skull and femur, considering the probable difference in the rate of growth, as indicated by their relative anatomical conditions, were probably of the same age. These tumours in the bones did not at all resemble the usual primary sarcomas found in bone. And lastly, primary sarcoma of the diaphragm does occur. Secondary formation in it from sarcoma of bone, without preceding infection of the lungs, would be, to say the least, very unlikely.

The tumours found in the liver presented no special features of interest.

*Dr. Macewen* gave a few additional details of the case.

*Dr. Middleton* mentioned a case of sarcoma of the liver with secondary deposits in the bones.

*Dr. Coats* said it was remarkable how frequently sarcoma selected the medulla of bone for its seats.

*Dr. Steven* asked what evidence there was that the tumour

in the diaphragm was primary and that in the femur secondary?

Dr. Dalzell said that there were here three tumours of the bones, the destruction in each case being about equally advanced. The tumour in the diaphragm, on the other hand, was very large, and caused intimate adhesion to the liver. Secondary formations in the diaphragm were certainly uncommon.

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## PATHOLOGICAL AND CLINICAL SOCIETY.

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SESSION 1886-87.

MEETING II.—8TH NOVEMBER, 1886.

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*The President, DR. JAMES FINLAYSON, in the Chair.*

### I.—FRESH SPECIMENS.

DR. PERRY showed the OESOPHAGUS and LEFT LUNG from a case in which a bone about  $1\frac{1}{2}$  inch in length and  $\frac{1}{2}$  inch in breadth had been impacted in the oesophagus about the level of the upper end of the sternum. The patient had consulted several surgeons in London, who, after passing the probang, had declared there was no bone in the throat. When seen by Dr. Perry he was in an excited and exhausted condition, and could give little account of his illness. On the next day he showed Dr. Perry a bone of the above dimensions which he had coughed up, and he then declared himself all right. There was, however, evidence of disease in the left lung, and he died in a few days. At the *post-mortem* examination the oesophagus was found to be the seat of a large ulcerated aperture, and in the apex of the left lung there was an abscess, from which the general system had been infected. In the left pleura some pus was found. It was presumed that the bone had pierced the lung, and thus set up the disease.

Dr. Newman referring to the fact that such a large piece of bone had escaped detection, pointed out the advantages to be derived from the use of a resonator-probang in such cases.

DR. T. K. DALZIEL showed a RUPTURED SPLEEN, LIVER, AND KIDNEY, removed from a boy who died 9 days after being run over by a waggon. The liver presented four vertical

rents, from two to four inches in length, on the posterior surface; the kidney, several horizontal ones on either surface, comparatively superficial, in no case extending deeper than the cortex. The spleen presented a complete transverse rupture, the parts being connected by a band of fibrinous material about  $\frac{1}{4}$  inch in thickness. From the same subject was also shown a fractured clavicle (simple), where there was no appearance of callus, the seat of fracture being surrounded by an abscess, which had stripped the periosteum from the clavicle to a considerable extent, and bathed the fracture surfaces. The boy had also suffered from fracture of femur, of five ribs, and of the lower jaw. At the seat of the rib-fractures there was also in each case a small quantity of pus. The duration of life (9 days) after receipt of injuries so severe, and the formation of abscess at the seat of a simple fracture were the chief points of interest.

## II.—SPASTIC PARALYSIS.

BY DR. ROBERT PERRY.

A case of Spastic Paralysis was shown. S. C., æt.  $6\frac{1}{2}$  years, was admitted 24th August, 1886. Mother states that there was flooding immediately before the child was born. The attendant at the labour was merely a midwife. The presentation was head. Labour lasted 9 hours (the second stage being about 1 hour). When the child was born she was blue, and not breathing; a woman present is said to have attempted artificial respiration by means of slapping and working the legs. When 9 months of age she could creep about the house, and at this time nothing unusual was noticed about the feet and legs. But soon, and gradually, the feet and legs became deformed. Child has always been nervous. At the age of 4 years she had diphtheria, and when this was recovered from she was much emaciated, but there was no sudden increase in amount of deformity. Last summer (1885) child could walk a few feet on her tiptoes without support, and moved about the house holding on to furniture, &c. When the feet were put flat to the ground she bent her body forward.

*Present Condition.*—The girl is fairly well nourished and healthy looking. The head is  $6\frac{1}{4}$  inches in antero-posterior diameter, and about  $5\frac{1}{2}$  inches transverse diameter. Height is about 2 feet 11 inches. At site of the frontal eminences, instead of the usual protuberance there is a hollow on either side. The skull is very narrow in front. Patient has a

decidedly unintelligent appearance, but experience shows her to be very observant and imitative. The speech is defective, the words not being distinctly uttered; this may in part be accounted for by the teeth being decayed, but only in part, as the mother states that the child has always been a bad speaker. She is very nervous and excitable. When patient is supported in the erect posture the thighs are close together, the right coming in front of the left. They are both flexed at the hip, the right more than the left. The legs are in the "knock-knee" position. Feet are in the position of "equino-varus," the right much more so than the left, and the toes are somewhat spread out. The knees are flexed. The gastrocnemii and hamstrings are very tense. The whole trunk is bent forward, and inclined to the left. The head is bent forward on the body. There is no curvature of the spine. Knee and tendo-Achilles reflexes are normal or exaggerated. No ankle clonus. No front tap phenomena. Gluteal reflex is most marked on the left side. Abdominal reflex is well seen on left side, but almost absent on the right. Epigastric reflex is normal, as are also the lumbar and scapular. Sensation and sight are normal.

*9th October, 1886.*—After treatment with sod. iod., gr. i, liq. strychn., m<sub>½</sub>, she has improved greatly. When standing or supported she can place the feet parallel and flat on the ground, but the knees remain in the same position, and cross each other slightly when attempts are made to walk. When she is trying to walk without support the feet are shuffled along the ground, never being lifted, and there is a great tendency for them to assume the equino-varus position. She bends her body and head forwards, and spreads out her hands like a blindfolded person. She is apt to fall [always forward], the heels slowly leaving the ground. When sitting she generally has the knees together and the feet wide apart, and in the equino-varus position, and the toes are widely spread out. When she likes she can make the feet parallel, the equinus disappearing and the heels being in apposition.

*18th October, 1886.*—Electrical Report by Dr. M'Intyre. The peronei in both legs react neither to the constant nor interrupted current. Adductors—hams—gastrocnemii to both on both sides.

The case seemed to him to resemble spastic paralysis, but the lesion seemed to be cerebral. As to the etiology of the lesion, some might suppose it due to injury during birth, and others to a congenital deformity.

*Dr. Robertson* does not recognise this as a well marked case

of spastic paralysis. There is not much rigidity at present, and the reflexes are not increased. From the history of the case, and the appearance of the child, especially of the head, he inclines to believe there is a lesion in the brain, probably a defective development in the motor centres, but the general intelligence seems also to be impaired. He does not think it clearly congenital.

*Dr. Finlayson* has, in the Children's Hospital, seen a considerable number of similar cases, and he believes them due to a bilateral cerebral lesion, corresponding as they do to the cases of double spastic hemiplegia described by *Dr. Sarah M'Nutt*. In such cases the head is usually small, intelligence defective, and the possibility of education diminished. Many cases have a history of injury at birth. He has nothing encouraging to say as to treatment. Some have been improved by cutting the tendons.

*Dr. M'Call Anderson* believes the case of cerebral origin. The absence of rigidity, spasm, increased reflexes, and clonus, proves it not to be spastic paralysis. On the other hand, it presents some of the characters of infantile paralysis, but there is no atrophy.

*Dr. Workman* asked if the lesion is in the brain, is there not also probably descending sclerosis? and was answered in the affirmative.

### III.—VIOLENT HEADACHE AND SYMPTOMS OF OPTIC NEURITIS, PROBABLY OF SYPHILITIC ORIGIN.

BY DR. WORKMAN.

A patient who suffered from Violent Headache and Symptoms of Optic Neuritis, probably of Syphilitic Origin, was shown.

*G. G.*, *æt. 28*, a plumber, was admitted 26th October, 1886.

*Previous History*.—He had inflammation of the lungs about ten years ago. Has had rheumatism in the knees and lumbago. About a year ago he had a sore on his penis, and two months after he had an ulcerated sore throat. Has had no very marked skin rash, or other symptoms of secondary syphilis but the sore throat.

*Present Illness*.—About 8 weeks ago, on a Saturday, he had a race in order to catch a train, was greatly heated, and then sat in a draught without his hat on, from that time he felt unwell, and on the following Tuesday the head trouble from which he complains commenced by pain in the forehead and occiput. The pain at first came in paroxysms which lasted

about five minutes, and came on at intervals of two hours. It lasted in this way for three weeks, and then gradually became worse and constant, but would still pass nearly away for three hours in the mornings. It was excessively severe at night, so that he states he was nearly mad with the pain, and could not lie in his bed. On several nights he had an injection of morphia, and on other nights an opium suppository, but without getting much relief.

*Present Condition.*—Patient is a well nourished fairly muscular subject, but rather pale in complexion. The thoracic and abdominal organs reveal nothing of note. There is no sign of either cerebral or spinal mischief, except the headache, and perhaps also slight tremor of the hands. Hearing and sight appear to be fairly good, but I had not the means of examining the fields of vision. The patient complains bitterly of pain in the head, which commences in the occiput, extends then to the forehead, and now also is very bad about the ears. This pain is much worse at night, and allows him very little sleep. On examining the eyes with the indirect method (inverted image) the apparent lower and outer parts of the edge of the discs are seen to be blurred, and the entire discs appear redder than usual. By the direct method (erect image) the inner and upper edges of the discs are found to be obliterated by effusion into the retinæ, and the vessels appear to spring out of a rather deep cup, the inner halves of the discs appear pinkish-grey, and striated. Along the sides of the vessels there are white streaks as they are crossing this grey tract. Since admission, the patient has been treated with 10 grs. iodide and 15 grs. bromide of potassium three times daily. He has also had 3 grs. of calomel at night. He had an injection (subcutaneous) of morphia on the second night, and 1 dr. of bromidia another night. The morphia procured him 3 hours' sleep, but the bromidia did no good.

Under the treatment, the headache has greatly lessened in violence, so that patient is enabled to get sufficient sleep without narcotics. We find also that the application of cold water seems to do good, and lessen the violence of the pain.

My reason for bringing this case before you is chiefly because it is generally considered that brain mischief only shows itself late in syphilis. But this patient has had the primary sore rather later than this time last year, and but few symptoms of secondary syphilis have revealed themselves as yet. I think, from the character of the pain, and from the presence of optic neuritis, there is but little doubt that the trouble is due to the syphilitic poison.

I see in the last number of the *Deutsche Medicinische Wochenschrift*, a review of a paper by Seligmüller. He states that the central nervous system reacts very early to the syphilitic poison, often as soon as the disease becomes general. This shows itself by two symptoms, headache and sleeplessness. He says the initial symptoms of brain syphilis are headache, sleeplessness, and vertigo, and these are often the forerunners of severe brain disease. The headache, he says, is characterised by its extraordinary severity, increased during the night, its resistance to narcotics, and by its easily giving way to treatment with iodide of potassium. The case is of interest, as it is one where, if the man had hidden from us the fact of his having had a sore, we might have wasted time in trying to cure the headache by other means till perhaps a convulsion or some paralysis revealed to us what was really the matter. Another reason for bringing the case before you is that it is quite probable you may have a chance of seeing the case again when it is further advanced, and it is good to be able to compare it with the earlier stage. As to my diagnosis in this case, I think, in spite of the presence of optic neuritis, the lesion is likely a meningitis rather than a gumma forming in the brain, as the symptoms have taken place so early in the course of the syphilis. I should like much to hear from members of your Society whether they have found violent headache an early symptom in syphilis, and also whether optic neuritis is present. And whether they find the latter in such cases without the presence of a gumma or tumour increasing the pressure in the cranial cavity.

*Dr. Meighan* read the history of a similar case.

J. M'A., aged 23 years, hammerman, came to the Eye Infirmary on the 22nd September last, complaining of severe pain in the back of his head and neck, and a few weeks ago he began to see objects double, especially when held to the right side.

States that about the beginning of July he first felt the pain in the head and neck. At first the pain came at intervals during the day, the paroxysm being so severe at times that he almost tumbled, and for a moment became blind. He never vomited, although he felt sick at times. On two occasions he had a nervous fit, which caused him to shudder and fall backwards; his left leg became drawn up, and it was some time before he could straighten it; he did not become unconscious. The headache gradually got worse, and he began to feel giddy and stumble when walking. He was also afraid to bend for-

wards, as it increased the pain and giddiness. About the end of August he felt so ill and weak, especially in the legs, that he could not leave his bed for a fortnight. On rising in bed in the morning he noticed that he could not see for a few minutes, and he felt very giddy. The symptoms became worse, and about the middle of September he saw objects double, had some hesitation in his speech, and was afraid to walk in the streets alone, as he felt inclined to fall, and run against people.

States that about three years ago he had gonorrhœa, but never any other ailment till the present. Father dead; one sister died from consumption.

On examining him I found a slight convergent squint of the right eye; diplopia when objects were held to right side; partial paralysis of the right external rectus.

His acuteness of vision is nearly normal, as he sees No. I of Jaeger's test type with the right eye, and No. II with the left. He also sees Snellen's test type at the proper distance, but not so well with the left eye. There was slight contraction of the field of vision in the left, but no defect of colour sense in either eye; pupils regular and acting to light and accommodation.

He walked with a weak gait, and I could notice no difference in his right and left legs. No defect of general sensation, or of taste, smell, or hearing. The knee jerks were present. Urine normal.

By the ophthalmoscope I found there was double optic neuritis, with moderate exudation, and a few small haemorrhages external to each disc.

He was ordered iodide of potassium, and has gradually improved since, as regards the neuritis, ocular paralysis, and weakness of the legs.

In about three weeks the diplopia disappeared, and he was able to resume his work.

In view of the symptoms I think this is a case of intra-cranial mischief, and illustrates the fact that optic neuritis may be present in a marked form with no obvious defect of vision. Optic neuritis arising from intra-cranial tumour usually proceeds to atrophy and loss of vision; whereas an optic neuritis arising from a local meningitis is usually transitory, and recovers.

I must say, however, there is a probability of further developments in this case.

*Mr. Clark* is satisfied, in Dr. Workman's case, of the presence of congestion of both discs, with lack of definition at the

inner edges, of hypermetropia in both, and of astigmatism in the left eye; and he believes the symptoms are not capable of being accounted for by the hypermetropia, and that neuritis, though present, is but slight in amount. He observed that in such cases it was often remarkable how slight was the diminution of visual acuteness (as was exemplified in the case shown by Dr. Meighan), and on the other hand, how notably rapid was the recovery of vision in those cases in which the defect was great. He regretted that Dr. Workman had not more fully tested the sight, in regard to both acuteness and extent of field.

*Dr. McCall Anderson* has no doubt as to the syphilitic nature of Dr. Workman's case, the history, and the exacerbation of the headache at night being almost distinctive. Pain in the head is one of the most general symptoms of cerebral syphilis, which, though generally a late occurrence, in not a few instances occurs within a comparatively brief period after the primary disease. Dr. Anderson has in such cases had admirable results from mercurial inunction, the value of which has been strikingly exemplified when large doses of the iodide of potassium have failed.

*Dr. Hugh Thomson* believes Dr. Workman's case to be one of syphilitic meningitis rather than of gumma, and would treat by mercury in preference to the iodide. Head pains are common in the early history of syphilis, but pain more frequently attacks other parts of the body, and flits from place to place.

*Dr. Robertson* thinks there is a lack of symptoms characteristic of syphilis in Dr. Workman's case, such as lesion of the third nerve, &c., and even in the eyes there is nothing very definite. Again, syphilitic headache affects more commonly the front of the head than the back. Its yielding to anti-syphilitic treatment tends to support the diagnosis. It is further to be remarked that cerebral syphilis is usually a late occurrence, and there has generally been some evidence of secondaries. Dr. Meighan's case is well marked, and fully bears out the diagnosis.

#### IV.—LARGE PHOSPHATIC CALCULUS.

BY DR. H. C. CAMERON.

A large Phosphatic Calculus, removed from a female inmate of Gartnavel, was shown. For about three years after her admission she had had no bladder symptoms, but about a fortnight before being seen by Dr. Cameron she was reported to

be suffering from incontinence of urine. A sound was passed and the calculus discovered. The stone was removed by vaginal lithotomy, being too large for removal by dilatation of the urethra. Its nucleus was a hair-pin, the ends of which protruded at either extremity of the long diameter. It is interesting to note that this hair-pin had given rise to no symptoms for years, and that the incontinence was due to the stone having been driven into the urethra.

*Dr. Robertson* concurred with Dr. Cameron in the belief that in insane patients foreign bodies in the bladder often caused little disturbance. He had in the Town's Hospital removed a larger stone from a woman, the stone having nearly forced its own way out of the urethra.

V.—CASE OF SEPARATION BY NECROSIS OF THE OSSEOUS LABYRINTH OF THE RIGHT EAR, AND ITS REMOVAL AS A SEQUESTRUM FROM THE EXTERNAL AUDITORY CANAL.

BY DR. THOMAS BARR.

The specimen which I show you here was removed on the 1st June last from the right ear of a boy, aged 11 years. It consists of an osseous labyrinth with its three divisions—the vestibule, semi-circular canals and cochlea—clearly marked. On examining the specimen from the outer aspect—that is, from the direction of the cavity of the tympanum, especially with the aid of a lens, we see the opening of the *fenestra ovalis*, leading into the vestibule, considerably enlarged by carious erosion; below this, and separated from it by a part of the outer wall of the first turn of the cochlea, there is the *fenestra rotunda* leading into the *scala tympani* of the cochlea. Behind and above the *fenestra ovalis*, the external or horizontal semicircular canal, with its ampullary enlargement, is seen in its whole extent. Springing from the upper part of the vestibule the superior semicircular canal is seen to about half of its extent. The Fallopian canal, with its contained facial nerve, has been destroyed at that part of its course, where it should lie above and behind the *fenestra ovalis*. On the inner aspect of the specimen, or that corresponding with the interior of the cranium, there is a cavity of considerable size leading into the vestibule and the *scala vestibuli* of the cochlea. This opening is evidently a carious extension of the apertures of the *lamina cribrosa*. In its interior can be traced part of the osseous spiral lamina of the cochlea. On this side of the specimen we also notice other two smaller apertures in the vestibule—one is that common to the two united extremities of the

superior and posterior semicircular canals, and the other is the ampullary end of the posterior semicircular canal—the only part of this canal represented in the specimen.

The boy, from whom this sequestrum was removed, had been affected for ten years with profuse purulent discharge from his right ear, which had originated in an attack of scarlet fever, when a year old. Facial paralysis of the corresponding side appeared shortly after the commencement of the discharge, and has continued ever since. He was brought to the Ear Hospital on the 1st of June last, mainly in consequence of severe pain in the affected ear. A polypoid growth was seen to occupy the orifice of the ear, and on examining with a probe, a large loose sequestrum was felt in the external auditory canal. After the polypus was removed by means of a snare, the sequestrum was, with some difficulty, extracted with a pair of forceps, and is that which I now show you. The external auditory canal was considerably dilated, and its lining much excoriated; but after the removal of the necrosed bone, the discharge quickly subsided, and, within two weeks, had completely ceased, while the interior of the ear had become healed as it is now. There was apparently at no time any mastoid complication. It has also to be mentioned that the boy suffered, a few years ago, from hip-joint disease, which went on to suppuration, and has left behind considerable shortening of the left leg.

There is, as might be expected, total loss of the hearing power in the right ear, as tested both by air conduction and by bone conduction. A vibrating tuning fork, or a loudly ticking watch, applied to any part of the head, is heard only in the left ear; while neither a watch, tuning fork, nor Politzer's Hörmesser is perceived by air conduction, if the opposite external auditory canal is efficiently closed. The voice, spoken into a hearing tube inserted into the right ear, is heard, evidently, however, by the other ear, through osseous conduction.

In view of the loss of the semicircular canals on one side, it is interesting to note that this boy has at no time suffered from giddiness or staggering. This seems to support the theory that disturbance of the equilibrium, having its origin in the semicircular canals, is due only to irritation from disease or injury of these canals, and that absence or total destruction of the semicircular canals has no effect upon the equilibrium of the body.

The facial paralysis is almost complete. As the trunk of the facial nerve was without doubt completely destroyed at

that part of its course where it ordinarily lies in the inner wall of the tympanum, it was important to determine accurately the condition of the muscles supplied by that nerve. And, in order to insure this accuracy, I asked our President to examine the area of supply both electrically and otherwise. The following is his report of the condition as tested on 5th and 7th June:—There is almost complete paralysis of all the muscles of expression on the right side, and the face is drawn to the left; even when quiescent the mouth is drawn to the left, and the right eye seems lower than the other, probably from relaxed state of occipito-frontalis. The right eye can be closed to a much more considerable extent than is usual in bad facial paralysis, but the part of the sclerotic below the cornea can be seen. He can close both eyes simultaneously pretty well, but he cannot wink with the right alone. The right side of the lips has also some slight power of movement, and the right buccinator contracts feebly on the finger introduced between it and the gums. There is also some movement of the ala nasi on right in sniffing. Otherwise, the whole right side of face seems flabby and expressionless.

The cornea is clear; the eye waters only slightly on exposure on a cold day; the movements of the eyeball are good, and the sensation of the paralysed side of the face is perfect.

There is a pretty distinct deviation of the uvula to the left; no deviation of the tongue.

On testing with *Faradic* battery no response could be obtained in the paralysed muscles, even when using strong currents. Ordinary strength of the *galvanic* battery likewise failed to secure contractions. On getting up to 27 or 30 elements, and using an interrupting handle, well soaked in salt water, the slightest recognisable quivering was produced in some fibres of the orbicularis in the lower lid, and in the orbicularis at the angle of the mouth. During this testing, marked contractions of the muscles of mastication sometimes occurred.

On 8th November, 1886, Dr. Finlayson again reports that there is no distinct change since above note. The sense of taste was not tried last time and the boy does not seem very ready to give assistance in this testing.

It is somewhat surprising that in such a case as this there was not extension of the disease to the brain or its membranes. In cases where sequestra have been found after death in the inner wall of the mastoid process, in contact with the dura mater, but without injuring the intra-cranial contents, there has always been some localised thickening of the dura mater.

Probably, thickening of the dura mater also exists in this boy, in the region of the posterior surface of the petrous bone, a conservative process of nature by which a barrier is erected against the propagation inwards of the purulent disease.

It is very curious to see how the inflammatory process has caused death and separation of only the hard ivory-like osseous tissue which forms the encapsulating walls of the labyrinthine cavities, as if these walls were separate and distinct, which they are not, from the adjoining more cancellated bone. The disease has really provided us with a preparation which the anatomist finds it difficult and tedious to prepare by dissection.

It only remains for me to say that, while a number of cases are on record of individual sections of the osseous labyrinth, especially the cochlea, having been exfoliated, there are comparatively few cases recorded of an exfoliated labyrinth having its various parts so well represented as in this specimen. A pretty complete specimen, which was placed in the museum of the College of Surgeons, but has since disappeared, is mentioned in Toynbee's book, and is fully described in the eighth volume of the Pathological Society's *Transactions*. Wilde also describes one in his *Aural Surgery*, p. 377, and refers to it as "one of the most extraordinary pathological specimens of diseased bone perhaps in existence." In the *British Medical Journal* of 13th June, 1885, Dr. Pye of London describes a specimen removed from a carious opening in the mastoid process, somewhat similar to the one which I have shown you. Another case is related in the same journal, by Dr. Phillips of Bolton, on the 14th July, 1885. In his paper Dr. Pye gives an interesting account of the more important recorded cases of necrosis of the labyrinth, both partial and complete.

Dr. Finlayson remarked on the difficulty of testing the sense of taste in unilateral lesions, especially in children, from the fact that it is necessary to have the patient's assistance. But in his experience, in facial paralysis from ear disease there is generally some impairment of taste.

Dr. Workman would have looked for great and progressive atrophy if the facial nerve had been destroyed in its whole diameter.

## ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

## INSANITY.

BY DR. R. S. STEWART.

**General Paralysis in Women—Hysteria in Women Attacked with General Paralysis.** By Philip Rey. (*Annales Medico-Psychologiques*, November, 1885.)—The special object of this writer is to direct attention to the occurrence of hysteria in women affected with general paralysis, a subject upon which most authors are silent. M. Regis holds that there is a profound antipathy between the nervous temperament and general paralysis, that the latter almost never develops in hysterical women, and that when this does occur the paralysis assumes quite a special physiognomy. The writer's conclusions, based upon the observation of thirty cases in which the antecedents could be accurately ascertained, and in seven of which various hysterical manifestations occurred, are as follows:—

1. General paralysis may be developed in women who are hysterical, and who are consequently endowed with an essentially nervous temperament. Cases of this kind are far from being exceptional.
2. From the points of view of age, hereditary antecedents, intellectual troubles, physical signs, course and duration of the paralytic affection, these do not notably differ from ordinary cases.
3. The mental alienation may sometimes present a particular character (persistence and predominance of erotic ideas, and frequent periods of maniacal excitement) which ought to make one suspect the anterior or present existence of hysterical complications.
4. The hysteria fades or disappears in the course of the general paralysis; probably it has in many cases disappeared at the moment of invasion of the paralytic affection.

**Remarkable Case of Remission or Temporary Cure of General Paralysis.** By M. Semelaigne. (*Annales Med.-Psychol.*, November, 1885.)—A man, aged 46, a distinguished writer, and occupying a very high government post, manifested signs of general paralysis with mental symptoms of a melancholic variety (heaviness of gait, embarrassment and hesitation of speech, pupillary inequality; depression, suspicion, taciturnity). At the end of a month all these symptoms had disappeared, leaving the intelligence as unclouded and brilliant as ever. For two years after this attack he was able to execute very important administrative functions, but at the end of that time he was again admitted with marked muscular tremor and stammering speech. He became more forgetful and demented, and succumbed six months after admission to a congestive seizure.

**The Comparative Weight of the Cerebrum and Cerebellum in Dementia Paralytica.** By M. Baillarger. (*Annales Med.-Psychol.*, January, 1886).—The results are based upon the weights in 57 cases, all women. In general paralysis there are two quite distinct periods characterised by widely different symptoms; the earlier, a maniacal condition with grandiose ideas; the later, a condition of dementia with paralytic enfeeblement. In the total number of cases there was an average loss of weight in the cerebral hemispheres of 152 grammes. Of these, 12 died during the early or maniacal stage, and in these instances the loss of weight was not a prominent feature. But of the remainder there was in 23 cases an average loss of 133 grammes in the case of the hemispheres, and only 2 grammes in the case of the

cerebellum, while in 22 other cases the cerebrum had lost on an average 252 grammes, and the cerebellum only 6. These figures indicate that, in general paralysis, the cerebral hemispheres are affected in quite a special manner by the diffuse interstitial sclerosis which ultimately leads to atrophy, and that the cerebellum practically takes no share in the process.

**Traumatic Amnesia with Automatism of Memory.** By M. Rouillard (*Annales Med.-Psychol.*, January, 1886.)—A midwife, called during night to a confinement, fell down stairs, injuring the right side of her forehead and right temple. As a result of this accident there was complete loss of memory, extending over a period of 5½ hours. During this period she walked some distance, ate and drank, and successfully delivered her patient, practising the vaginal touch, predicting accurately the time of birth, dividing the cord, and removing the placenta; and all perfectly unconsciously. She was only brought to consciousness when, haemorrhage taking place, the case assumed an abnormal character.

**Periodic Vomitings in a Case of Circular Insanity.** By P. Rey. (*Annal. Med.-Psychol.*, January, 1886.)—Alternations of mania and melancholia of irregular occurrence and variable duration, in a woman of 57, in which bilious vomitings announced each of the periods, particularly those of maniacal excitement.

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## GYNÆCOLOGY AND OBSTETRICS.

By R. STEVENSON THOMSON, M.B., C.M., B.Sc.

**Alterations of the Ganglion of Frankenhauser (Cervico-Uterine Ganglion) in Simple and Parametric Atrophy.**—Freund (*Arch. f. Gynäk.*, xxvii, 2) says that this nervous apparatus is formed in a very complex manner. It contains nervous filaments from the spinal cord and the great sympathetic, numerous ganglionic corpuscles, peri- and endo-ganglionic connective tissue, and suitable vascularity. The ganglion is enveloped in a thick sheath of connective tissue. Each of the ganglionic corpuscles presents the appearance of a fibrous ring, and most of them have two prolongations. They may be coloured intensely with ammoniacal carmine. The nerve-fibres are, for the most part, large, and often present a double contour, and a characteristic wavy direction. The modifications which are produced under the influence of pregnancy affect all the elements of the ganglion. It becomes hypertrophied, and reaches a size once and a half, or twice as large as in the unimpregnated state. This increase of volume is shared by all the elements—nervous, cellular, and vascular. There are also a hyperplasia and a new formation of elements. The modifications which are observed in the course of normal labour are of a regressive nature, intended to destroy the excess of substance which has been demanded in the course of pregnancy. In this regressive movement simple or puerperal atrophy may originate. The work of fatty degeneration which affects the nervous elements as the result of parturition, instead of being arrested, may continue under the influence of certain causes, of which phthisis, lactation, and puerperal diseases are examples. It is not surprising that this ganglion, with its numerous and intimate connections with both the spinal and the sympathetic systems should, in the course of these changes, produce the most positive results. In the atrophy, which is associated with posterior parametritis, the lesions are quite different. If the disease has not attained a very extensive degree of severity, the alterations which are produced affect principally the connective tissue elements. Subsequently, the compressed nervous elements

themselves are more or less profoundly altered. The ganglion becomes elongated, and finally lost in the surrounding tissue. The ganglionic corpuscles become less numerous, and the seat of brownish-yellow pigmentary deposits. Many of the nerve-fibres disappear, the effect being essentially that which takes place in sclerosis.

**Continuous Irrigation in the Treatment of Puerperal Infection.**—Pinard and Varnier (*Arch. f. Gynäk.*, xxvii, 2) remark that the antiseptic method as applied to the treatment of wounds of the uterus, vagina, and vulva consecutive to parturition, has yielded remarkable results, although there are still occasional deaths from septicæmia. A physician in charge of an obstetrical service, especially if it is large and public, is called upon to treat three classes of parturient women:—1, Those who have been surrounded by antiseptic precautions before, during, and after accouchement; 2, those who have been infected by hands or instruments during their confinement, and are brought into the hospital twelve or twenty-four hours afterwards, that is, before the appearance of septicæmia—this class of cases would include abortions with retained placenta, repeated and maladroit applications of the forceps, attempts at version, &c.; 3, those cases in which septicæmia is already present when the patients are received. In the first class the mortality can and ought to be zero; in the other two it may be considerable, but is susceptible of some improvement. The conditions for antiseptic treatment of the wounds which follow parturition are very unfavourable. There are not only open wounds, but wounds and granulations which are infected with micro-organisms. In addition, a discharge which consists of decomposing or decomposed matter in the form of the lochia is flowing over them; hence antiseptic treatment can be only relative. Such treatment has heretofore consisted in the intermittent use of vaginal or uterine injections, of solutions of carbolic acid, which may be as strong as one to twenty, or of biniiodide of mercury of a strength not exceeding one to two thousand. Though these injections are in many cases extremely efficient, their beneficial influence is less decided, or does not exist at all in cases in which the system is already extensively invaded by micro-organisms, the alleged reason being that their influence is only temporary. Too little of the carbolic acid or of the mercury in solution in the injections is absorbed to counteract the influence of the poisonous germs. The theory which the author propounds in such cases is as follows:—Admitting that the kidneys and liver are in a fair condition of health, it appears that the differences in the gravity of puerperal disorders depend simply upon the greater or less quantity of poisonous material which is absorbed by the utero-vaginal wound, upon the degree of rapidity with which the doses which are absorbed succeed one another. On this theory, if one acts energetically upon the traumatic fever, which is the first degree of infection, as soon as it makes its appearance, one will prevent septicæmia. If one acts sufficiently early, and with sufficient energy upon the septic endometritis which ensues, one can prevent or arrest lymphangitis, peritonitis, and phlebitis. The important point in all cases is the amount, together with the more or less profound degree of penetration of the septic agents. The conclusion from the foregoing propositions is that continuous irrigation of the utero-vaginal canal would accomplish a means of treatment which is both antiseptic and rational. This conclusion has been reached, notwithstanding the discredit into which this method fell after a brief trial, and the objections that it is impracticable, useless, and even dangerous. The published experience of Sneguireff, of Moscow, shows that the method is both practicable and safe. Complicated apparatus for carrying out the method is not necessary, and the author's experience warrants him in recommending it.

**The Galvanic Cautery in the Treatment of Membranous Dysmenorrhœa.**—At a recent meeting of the French Association for the Advancement of Science (*Ann. de Gynéc.*), M. Landowski expressed an opinion that, while membranous dysmenorrhœa generally depended on a particular diathetic state or on general debility, local treatment should not be neglected.

He stated that, for some time past, he had been successful with the galvanic cautery, which, heated to a dull red, he applied to the endometrium, the cervical canal having previously been dilated. He makes the application five or six days after the cessation of a menstrual flow, and the patient remains in bed for about eight days.—*New York Med. Jour.*, 13th Nov., 1886.

**The Early Diagnosis of Cancer of the Cervix Uteri.**—Dr. Palmer discussed this question at a recent meeting of the Cincinnati Academy of Medicine (*New York Med. Jour.*, 4th Sept., 1886). He considered two sources of error—the confounding of scirrhus with fibrous hypertrophy of the cervix, and of epithelioma with benign disease of the cervical mucous membrane. The vascularity of the cervix is increased during the early stage of carcinomatous infiltration, so that it assumes a bluish or reddish colour. The finger detects small nodules beneath the mucous membrane, while the latter gives the impression of being more closely adherent to the subjacent tissue. It is not only extremely difficult to detect these early changes in a cervix which was previously the seat of erosion, but the patient rarely applies to her physician till the ulcerative stage is well advanced. The general condition does not always give a clue to the true affection. It is often necessary to watch a cervix for a long period, and to note the inefficacy of local treatment, before we can decide as to the presence of malignant disease. Obstinate leucorrhœa, erosion, and induration in patients of advanced age should always be regarded with suspicion. Even the microscopical evidence may be uncertain, in the absence of positive clinical proof. Certain forms of fungoid degeneration remain for a long time on the line between simple and malign growths, and then suddenly assume malignant characteristics. The author believes firmly in laceration of the cervix as an exciting cause of epithelioma, especially in cases in which there has been no attempt at repair.

**The Blue Discolouration of the Vaginal Entrance as a Diagnostic Sign of Pregnancy.**—(*New York Med. Jour.*, 16th Oct., 1886.)—Dr. Chadwick read a paper, including notes of 440 cases examined. He divided the discolourations into four groups: (1) Doubtful, where it was so faint he could not be certain of its presence. (2) Suggestive, where it was more marked. (3) Characteristic, where the discolouration, though faint, was confined to the anterior wall of the vagina, and more particularly to the urethra, just below and on either side of the meatus. In every instance where this was present, the woman was pregnant, with one exception. (4) Marked, where the congestion had become deep and exhibited the appearance constantly seen during pregnancy. He did not maintain that the characteristic discolouration was seen in every case, but, if carefully looked for, it would be found quite pronounced in the majority of cases. The colour varied from a dark, dusky, almost black colour.

## DISEASES OF THE THROAT.

BY DR. J. MACINTYRE.

### NEWER REMEDIES IN DISEASES OF THE UPPER AIR-PASSAGES.

**Cannabine Tannate.**—Dr. Shurley in the *New York Med. Journal* for 11th September, recommends the use of this agent in swelling of the nasal mucous membrane. Strength—2 grs., starch to 1 drachm; as an insufflation.

**Cotoine** (active principle of Coto Bark) is stated by the same gentleman to be useful in atrophic nasal catarrh. Strength—1 part to 3 of the excipient. He also advises—

**Physostigmine Salicylate** in  $\frac{1}{10}$  grn. doses for spasmotic stricture of the lower pharynx and oesophagus.

**Menthol** is put forward by Dr. Rosenberg (*Berlin Klin. Woch.* xxviii, 1886) as a substitute for cocaine in anaesthesia of the mucous membrane of the naso-pharynx, &c. Strength—20 per cent solution. While the action is less permanent, it is quite effectual.

**Connection between Tonsils and Testicles.**—Dr. Pearce Gould, in the Clinical Society, London (*Lancet*, 16th October, 1886), showed a case of undeveloped sexual organs, associated with congenital defect of the tonsils, but did not believe in the general impression that there was a connection between the two organs. Dr. Haig Brown in his work *Tonsillitis in Adolescents* (1886), p. 10, speaks of occasional atrophy of one testicle after removal, but does not make reference to cases seen by himself.

**Micrococci of Pneumonia found in the Nasal Passages.**—Dr. Thost (*Deutsche. Med. Woch.*, No. xi, 1886) gives the results of 17 cases examined. In 12 he found the micrococci of pneumonia (Friedländer) in the discharge from simple coryza and chronic rhinitis. The organisms were cultivated, and injections produced pneumonia in some of the lower animals.

(These results have been observed before by Klamann, *Gaillard, Revue des Sciences Médicales*, October, 1886.)

#### LARYNGEAL NEUROSES.

**Laryngeal Paralysis from Cerebral Tumour.**—Dr. Krause of Berlin (*Archiv. f. Psychiatrie und Nervenkrankheiten*) reports a case of glio-sarcoma of the corpus striatum and left temporal lobe, in which the half of the larynx was paralysed. The case is regarded as important in the question of there being a cerebral centre for the laryngeal muscles. (For reference see "Y-a-t-il un centre cortical du Larynx," *Revue de Méd. et de Chir.*, August, 1885.)

**Pharyngeal and Laryngeal Nystagmus.**—Dr. Spencer, in the *Lancet* for 9th October, 1886, describes in a case of antral tumour "the superior constrictor of the pharynx to be in a state of constant rhythmical movement in the horizontal direction." The laryngeal muscles are similarly affected. The rate of the rhythm was perfectly synchronous with that of the muscles of the eyeball—viz., 180 per minute.

**On an apparently Peripheral and Differential Action of Ether upon the Laryngeal Muscles.**—(*Brit. Med. Jour.*, 28th August, 1886.)—Dr. Felix Semon and Mr. Victor Horsley contribute an important article on the functions of the recurrent laryngeal nerve. The investigation was suggested because Dr. Hooper stated in a paper read before the American Laryngological Association, in June, 1885, that electrical stimulation of the recurrent nerve in dogs when narcosis was complete caused *abduction* of the cord. After the animal recovered from the anaesthetic the reverse took place—viz., *adduction* of the cord. Again, the effect was the same if the nerve were cut and its peripheral end stimulated. Anaesthetics are administered in surgery because they secure a powerful transitory influence over sensory and motor apparatus, whilst they affect motor apparatus of so-called organic life only in huge doses (diaphragm, intercostals, &c.). Now the larynx comes under both heads—(1) voluntary functions of phonation, and (2) automatic respiration—governed by adductors and abductor or post-crico-arytenoids—respectively. The adductors are stronger than abductor, hence stimulation of the recurrent nerve produces adductions. If the animal be anaesthetised the adductors are hampered, and the abductors now act; in fact, the experiment is the same as if the abductor alone in the nerve was stimulated, but this only refers to the uncut nerve. If the same result be obtained, however, on stimulating the peripheral end of a cut nerve when the animal is deeply narcotised, it is evident that the effect of the narcotic is in no wise due to the central nervous system. We are driven to conclude that the ether must act specifically on the nerve fibres, their endings in the adductor muscles, or on the muscle itself, supposing there is no

peripheral ganglionic apparatus subserving the laryngeal function. The writers of the paper have made some very interesting experiments confirming the facts above stated, and consider the proofs of this "ether effect" adequate, although they do not venture on any explanation or conclusion.

**Treatment of Pus in the Antrum of Highmore.**—Mikulicz (*Centralblatt f. Chir.*, xxiv, 1886) believes that the antrum would be better treated by an opening in the wall of the nasal fossa, owing to the difficulty of keeping the drainage open through the alveolar process. Dr. Mikulicz records a successful case, and recommends an opening at the level of the inferior meatus, where the bone is as "thin as a piece of paper." He has a special instrument for the purpose.

**Intubation of the Larynx** continues to be extensively tried in the United States as a substitute for tracheotomy.

Dr. Waxham's paper (*Med. and Surgical Reporter*, 18th September, 1886) is a good one. He reports 83 cases of intubation, with 23 recoveries; of 58 under his own care, 20 were moribund when the operation was performed; 40 were diphtheritic; in all, membrane was expelled.

Dr. Northrup, in the *New York Med. Journal*, 18th September, reports 8 cases for "croup"—4 recoveries.

Dr. Hance (*New York Med. Journal*, 7th October), reporting 5 cases, and Dr. Montgomery (*Med. and Surg. Reporter*, 23rd October), both recommend this method of operation. Dr. E. J. Inglis, Chicago, in a reprint, enters fully into this method of treatment.

The American surgeons seem to value this procedure on account of the absence of shock; instant and easy introduction of the tubes; no wound; inspired air requires no artificial moisture or heating; reduced risk of complicating pneumonia. In connection with this important subject, in one case of death the tube had been swallowed, and was found, *post-mortem*, in the stomach, a fact to be remembered in comparing O'Dwyer's with Macewen's tubes.

**Recent Literature.**—A considerable addition to the literature has been made during the past year. A number of valuable works have been produced, particularly on the region of the nose, and naso-pharynx. Reference may be made to the following, amongst many others:—

*A Guide to the Examination of the Nose.* By E. Cresswell Baker, M.B. (Lewis, London, 1886).

*Krankheiten der Nase, Ihrer Nebenhöhlen und des Rachens.* Von Dr. Gottfried Scheff (Hirschwald, Berlin, 1886).—The anatomy and physiology, diagnosis, and recent operative and therapeutic advances well grouped and collected. Good references to associated condition of the larynx and nervous system are made, and the author treats of most diseases which affect the throat, in this volume.

*Diagnose und Therapie der Erkrankungen des Mundes und Rachens.* Von Dr. Herman Helmckampf (Euke, Stuttgart, 1886).—The author deals mostly with diseases of the mouth, teeth, and pharynx, and their treatment.

*Diseases of the Mouth, Throat, and Nose.* By Dr. Philip Schech. Translated by Dr. R. H. Blackie, Edinburgh (Pentland, Edinburgh, 1886).

*Über die bedeutung der Bursa Pharyngea für die Erkennung und Behandlung gewisser Nasenrachenraum Krankheiten.* Von Dr. G. L. Tonwaldt, Danzig (Bergmann, Wiesbaden).—A valuable addition to our knowledge of the diagnosis and therapeutics of the nasal cavity, with illustrative cases.

*Die Krankheiten der Nasenhöhlen.* Von Dr. Med. W. Moldenhauer (Leipzig, Vogel, 1886).—Attention is (in addition to the diseases of nose) paid to the pathological conditions of the maxillary, frontal, ethmoidal, and sphenoidal sinuses.

*Die durch Anderweitige Erkrankungen Bedingten Veränderungen des Rachens.* Dr. Edward Lori (Euke, Stuttgart, 1886).

**EPIDEMIOLOGY.**

By JAMES W. ALLAN, M.B.

**Cholera.**—The *Lancet* for 15th January contains a good summary of cholera in Europe, in 1886, from which the following brief extract is made:—

“During the close of 1885, and the commencement of 1886, cholera was lingering about the southern portion of Spain, and the North of France, but in neither of these countries did it exhibit any tendency to spread as the spring and summer advanced. From Italy there was no cholera news during the early months of last year, and it was not until the middle of April that the public learnt for the first time that fifteen deaths had occurred in the important port of Brindisi, and that the disease was rapidly extending.” . . .

“In Austria-Hungary, cholera appeared in the province of Trieste very soon after the disease had established itself in the province of Venice; and during the month of July the malady had already caused a very considerable mortality in Trieste and its neighbourhood, and at Fiume.”

With regard to the epidemic of 1886, in Italy, the “rough estimate” is made that there were 15,700 cases of cholera, with about 6,500 deaths.

Cholera is spreading in South America. The *Lancet* (5th February, 1887) says:—“On the East Coast, Uruguay and the Argentine Republic are affected, the disease having commenced at the important ports of Monte Video and Buenos Ayres.” . . . “On the Western Coast of the Continent the disease appears so far to be limited to Santiago. The first spread of cholera to South America is believed to have taken place in connection with a very considerable emigration of Italians to the district of the River Plate; but it is not easy to determine which locality became first affected.”

**“A New Cholera Fungus.”**—Under this heading, the *Lancet* (29th January, 1887) refers to the work of the “Commission upon Cholera” sent to Spain in 1886. “At length the discovery was made of a fungus present in the intestinal mucosa of every case, at varying depths from the surface, and also in the kidney and liver.” This fungus is referred to the class “Chytridiace.” It is admitted that “further investigation is needed.” Discredit is thrown on Koch’s “comma bacillus”—on “Emmerich’s straight bacillus,” and on “Klein’s straight bacillus”—while Ferran’s injections are declared to possess no claim to protective power, but to be “dangerous from the risk of inducing septicæmia.”

**Disinfection.**—“Dr. S. V. Shidlovsky, of Professor A. P. Dobroslavin’s laboratory in St. Petersburg (*Vrach*, No. 26, 1886, pp. 469-71), has carried out a series of careful experiments, from which he concludes that sulphur fumigations do not present a reliable disinfectant, as far as spores of the bacillus anthracis are concerned.”—*Sanitary Record*, 15th November, 1886.

**The Disinfection of Cabs** was brought before a meeting of the Society of Medical Officers of Health, held in London, on 19th November, 1886, and the Council recommended the following proceeding:—“The cushions, and as much of the internal fittings as were movable, should be taken out of the cab and put in a disinfecting oven, where such was available; if there were no disinfecting chambers, the cushions, after having been taken out, if movable, well beaten and dusted, should be returned and placed on end so as to expose both surfaces to the action of the chlorine gas, which was subsequently used. All exposed wood-work on the inside of the cab should be washed with carbolic acid soap, and carbolised oil should be smeared over the metal work, with the view of disinfecting it, and of protecting it from the action of the chlorine. Chlorine gas should be evolved inside the cab, and the cab shut up and kept exposed to the fumes for one hour.” It was recommended that the disinfection and the granting of certificate should be free of charge.—*Sanitary Record*, 15th December, 1886.

**"Hospitals for Infectious Cases—Should they be free, or a charge made for maintenance?"**—Such is the title of an able and interesting paper by Dr. Vacher, which was read at the Congress of the Sanitary Institute (York, 1886), and is published in the *Sanitary Record* for 15th October, 1886.

The following extract will clearly show Dr. Vacher's standpoint:—

"The Sanitary Inspector calls and practically applies the rule by asking the question—Can the patient or those in charge of him pay 1s. 6d. or 2s. a day maintenance while in hospital? If the answer is in the affirmative, the patient is at once removed; if in the negative, those in charge are instructed to make application to the relieving officer, as the guardians will only pay for cases sent in by their own officer. When the application to the relieving officer is successful, the patient is sent to hospital, though not till some hours later than he would have been; when it is not successful (as often happens), the patient's friends come back to the sanitary inspector, and the representatives of two public authorities squabble about the patient till advice is received that he is dead—then, 'the last scene of all,' the sanitary officer buries the hatchet while the relieving officer buries the body. Meanwhile, the disease has spread, and both authorities are put to charges a hundredfold greater than the few shillings they were unwilling to risk." . . . "So long as initial cases of infectious disease are properly isolated, of what consequence is it who bears the cost of their maintenance for a few weeks? Whenever isolation is not practicable at home, get the patient removed as soon as reported—the safety of the community demands this." . . . "Rather than this scandal should continue, let the simple rule be adopted of making all hospitals for infectious diseases free, as surgical and general hospitals usually are."

**Enteric Fever.—Etiology.**—Dr. Blair, of Shotts, has furnished the following interesting account, which illustrates the conveyance of enteric fever from one locality to another:—

On Sunday, 19th September, 1886, was called to see Jessie Miller, at Redmire Toll. Patient flushed; temperature, 104·2°; breathing very rapid. On 20th diagnosed enteric fever, with accompanying pneumonia. The girl was in domestic service in Uddington, and had been driven home in a close conveyance the night of the 18th. The case was a severe one, but passed off favourably. Meantime, her sister Marion had gone to "keep her place open," and, after a sojourn of between five and six weeks, she also took fever and was sent to Bellshill Hospital, where she was treated for enteric fever. On 28th October, all measures possible having been taken for disinfection of stools, &c. (the privy is an open one, situated a considerable distance from the house, and there is a very steep fall to the stream, which, however, does not receive the contents of the privy), the baby, a child of some 18 months old, was found to be feverish and troubled with diarrhoea, &c.; but, as it was teething, it did not attract much attention, and proper care was not taken with its excreta at first, result being on 23rd November the father, on 24th the eldest son, and on the 25th another lad, at about 9 years, were all taken ill, and all proved to be enteric. None of these cases were slight, and James the eldest son, succumbed to the disease. On 26th December, Katie, a girl at about 12 or 13 years, was laid up, but her attack was very mild, as was that of William, who took his bed on 8th January, 1887, followed next day by his little sister Maggie, who died on the 20th January. There were thus 8 cases at once in a house with but two rooms, spread over a period of four months, and one case being at the original seat of the disease. I heard afterwards that the gentleman at whose house the disease was contracted got his drains examined, and that these were found to be in a very faulty condition. One son in Glasgow, who was never home, escaped, as did also the mother, who nursed or helped to nurse them all, except the girl who was sent to Bellshill Hospital. The water supply is very good, and they keep their own cow.

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ORIGINAL ARTICLES.

NEPHROTOMY AND NEPHRECTOMY.

By HENRY E. CLARK,  
Surgeon to the Glasgow Royal Infirmary.

*(Read before the Medico-Chirurgical Society, 21st January, 1887.)*

THE surgery of the kidney has in recent years come into such prominence that incisions into that organ whether for the liberation of pus or the removal of calculi are of frequent occurrence, and operations for removal of the kidney are by no means rare. There is, however, still sufficient to learn about the surgical affections of the kidney to make it desirable that all cases should be carefully recorded, and if this be true of cases generally, it is especially so of the instances of what is commonly the least satisfactory disease to deal with surgically, I mean the condition known as *scrofulous* or *tubercular kidney*.

As the case which will be presented to you herein is an example of this form of disease, my observations will chiefly be directed to an exposition of its symptoms, diagnosis, and treatment, but many questions which have a bearing on the surgical treatment of other kidney affections will crop up, so that I trust my paper may serve as an introduction to a discussion on the varied circumstances under which a surgeon may require to cut down upon, incise, or remove a kidney.

It will simplify my statement if I in the first place give the  
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clinical history of my case from beginning to end, describing the two operations of nephrotomy and nephrectomy as they were performed, showing you the patient in her present condition of perfect health, and presenting for your observation the kidney removed.

B. P., ~~æt.~~ 26, married, was admitted into Ward 6 of the Royal Infirmary, under the care of Dr. Alex. Robertson, on 24th November, 1885, complaining of pain in the loins, especially on the left side, and running down the left ureter.

In the previous May, the patient noticed that she required to pass water very frequently, the desire to micturate sometimes coming on as often as every ten or fifteen minutes; at such times she had a sharp pain at the meatus urinarius, and the urine passed was always thick. She supposed these symptoms to be traceable to the fact that in the previous month she had frequently sat on the grass, which was often cold and damp.

At the time of admission her pain was constant, but was increased when pressure was made over the bladder, or in the left loin. Her menstruation was regular at intervals of five or six weeks, up to within four months of that date, but was accompanied by pain; she was now pregnant, and as far as she could calculate was three months gone.

The only important feature in her family history was the fact that her sister had died of phthisis. She herself looked rather like a phthisical subject, being thin, of lax fibre, and having a slight cough; but a careful examination of the chest made by Dr. Robertson showed the lungs to be in every respect normal.

About a week after admission, she had a rigor (20th November) and a second one two days later. A few days after this it was noticed that there was a swelling in the left loin; this slowly increased in size, and on 20th December, Dr. Robertson believed he made out fluctuation. On the 9th of December she aborted, and for three days afterwards the amount of pus in the urine was greatly increased.

She had very little sleep, not more than three hours on an average each night. She took food fairly well.

The amount of urine passed was decidedly below the normal; it had a sp. gr. of 1015 to 1020, contained albumen and pus, the former not in larger quantity than might be accounted for by the presence of the latter. The amount passed in each 24 hours from the 1st of December to the 23rd was as follows:—

Dec. 1.—30 oz.	Dec. 11.—24 oz.	Dec. 18.—22 oz.
“ 2.—40 ”	“ 12.—16 ”	“ 19.—24 ”
“ 3.—54 ”	“ 13.—28 ”	“ 20.—7 ”
“ 4.—34 ”	“ 14.—32 ”	“ 21.—28 ”
“ 5.—28 ”	“ 15.—18 ”	“ 22.—26 ”
“ 7.—28 ”	“ 16.—38 ”	“ 23.—22 ”
“ 8.—40 ”	“ 17.—22 ”	

On 23rd December, Dr. Newman catheterised each ureter, and collected the urine separately from each kidney. His report is as follows:—

	RIGHT.	LEFT.
<i>Appearance, . . .</i>	Clear and pale in colour ; on standing for 6 hours, only a deposit of mucus and a few epithelial cells.	Dark straw-colour ; clouds on standing for 6 hours, with an abundant deposit.
<i>Reaction, . . .</i>	Neutral.	Alkaline.
<i>Albumen, . . .</i>	Very slight trace.	1.805 per cent.
<i>Hæmoglobin, . . .</i>	None.	1 in 8,000.
<i>Tube-casts, . . .</i>	None.	None.
<i>Microscopic exam.,</i>	Slight deposit of epithelium and mucus ; no blood, pus, or tube-casts.	Abundant deposit of pus, with triple phosphates ; a few blood corpuscles and spheroidal epithelium ; no tube-casts.

On 29th December, she was transferred to my female ward ; and on the 31st, I made the following note:—

A swelling is felt beneath the floating ribs on the left side, which is painful on pressure at its anterior part. It is partly covered by the colon in front, and the area of dulness thereby lessened. On palpation this fulness and a feeling of tenseness are in marked contrast to the flattening and flaccidity of the right loin. Half the circumference of the body, at the level of the umbilicus, measures, on the right side,  $13\frac{1}{2}$  inches ; on the left,  $14\frac{1}{2}$  inches. Fluctuation cannot be satisfactorily made out at the back, but is very evident when one hand is placed in front and the other behind.

On 4th January, 1886, she was anaesthetised by means of chloroform, and the operation of nephrotomy was performed. An incision such as is made for lumbar colotomy, about three inches in length, passed downwards and forwards parallel with

the lower border of the last rib, and mid-way between it and the crest of the ileum. The oblique and transverse muscles being cut through, the edge of the quadratus lumborum was identified, and the transversalis fascia divided; the lower end of the kidney immediately presented in the wound, and was easily identified by its light purple colour and smooth surface. Palpation with the two forefingers gave evidence of distinct fluctuation, and I had no hesitation in plunging my knife into the kidney; and on withdrawing it, creamy yellow pus followed, the amount evacuated being estimated to be about 20 oz. The finger was introduced into the cavity, but no evidence of the presence of calculus could be detected, and a curved sound being substituted for the finger, a careful exploration was made in all directions in the interior of the kidney, but with like negative result. The cavity was washed out with corrosive sublimate solution (1 to 1,000), an india-rubber drainage tube inserted, and the wound dressed with sublimate gauze and a wood-wool pad.

Patient was put on a water-bed, and 10 grs. Dover's powder administered every 24 hours. The amount of urine, which on the 24 hours before the operation was 18 oz., still further fell to 17 oz., then to 16 oz., and on the 6th January to 14 oz., but on the 7th, to our great relief, rose to 45 oz., and for the next fortnight the excretion was as follows:—

Jan. 9.—14 oz.	Jan. 14.—34 oz.	Jan. 19.—46 oz.
“ 10.—44 ”	“ 15.—30 ”	“ 20.—54 ”
“ 11.—24 ”	“ 16.—40 ”	“ 21.—36 ”
“ 12.—36 ”	“ 17.—46 ”	“ 22.—25 ”
“ 13.—68 ”	“ 18.—35 ”	“ 23.—40 ”

From the latter date till the time she left the Hospital, 19th March, the quantity of urine ranged from 30 oz. to 54 oz. in the day, averaging about 42 oz., which, together with the small quantity escaping by the wound, gave a fairly normal quantity. The wound was dressed every third or fourth day, and each dressing removed appeared to be much more stained with urine than with pus. The urine (passed by the urethra), when tested, always gave a slight cloud of albumen, and a deposit of mucus and pus; the latter we suspected to come from the ureter of the affected kidney. All this time the temperature showed the evening exacerbations and morning remissions characteristic of suppuration, and we had little doubt that other suppurative foci had formed in the organ.

While satisfied that removal of the kidney was the only effectual cure, I thought it best, as she had been a long time

in Hospital, to send her home for a time, in the hope that her health would be improved, and she would be more fit for the serious operation contemplated. She was therefore dismissed on 19th March, but returned to the ward twice a week to have the wound dressed. For about a month she very distinctly improved in health, put on flesh, gained a fresh colour in the face, and was able to perform her household duties without fatigue. It was therefore urged on her that she should at once undergo the operation of removal of the kidney. Unfortunately, family affairs would not admit of her leaving home at that time, and it was not till four months after leaving us that she was readmitted to the ward, and then only because the discharge had increased in quantity, and she had pain and uneasiness in the other loin, suggestive of the other kidney being affected.

We thought it best, with this danger in view, to keep her under observation for some weeks, and make a thorough examination physically, both of the chest and loin, as well as to examine the urine systematically, and to again catheterise the ureters.

She had a slight cough, and this, together with the fact that her sister had died of phthisis, and the evidence we had now gained that the affection of the kidney was certainly not calculous, but was probably tubercular—these things, I say, suggested the probability of tubercle being present in the lung, but careful physical examination failed to give any but negative evidence on this point—nothing was found. Nor was there any fulness in the right loin, any increase of renal dulness, or any pain on pressure to give point to our vague suspicion of the other kidney.

The urine gave, on examination, a trace of albumen, a little mucus, renal epithelium, and, on one or two occasions, a few tube casts.

It seemed, most probably, that the albumen and pus were alike derived from the ureter of the kidney on which we had already performed nephrotomy; the tube casts presented rather a difficulty, as they are not a common feature in scrofulous kidney; indeed, their absence in the urine is a distinct feature of that disease. To settle our doubts as to the soundness of the right kidney, we again catheterised the ureters. This was done by Dr. Macintyre and myself, by means of Pawlik's catheter. The operation is in the female a very simple one, two ridges felt on the anterior wall of the vagina serving as useful and reliable guides, which lead the catheter directly to the ureteral orifices. The small quantity of urine

removed from the right ureter was in every respect normal, that from the left contained pus, epithelial debris, and a trace of albumen.

On examining the left side, there was found to be more fulness anteriorly than formerly, and there was marked tenderness on pressure over the anterior edge of the kidney. We suspected peritoneal adhesion here, and thought it possible that an abscess was pointing in this direction. At the operation no such adhesion was apparent, and there was no pointing at the part suspected.

In considering all the circumstances, we concluded that the case was one of scrofulous kidney, and that other abscesses than the one already opened existed; probably most of the secreting structure of the left kidney was destroyed. The lungs were sound, the other kidney was apparently healthy, and there seemed every probability that if the diseased organ was removed the patient would recover her health and do well. She had stood the nephrotomy so well that we had every hope of a successful issue.

On the 27th August the left kidney was removed by lumbar incision in the following manner:—

The incision was made a little above the opening of the old sinus, and was more transversely directed than was the nephrotomy incision. This was done to obtain freer access to the front of the kidney, if any adhesions rendered a careful dissection necessary, as seemed not improbable. The result, however, proved that the incision need not have been carried so much forwards. After dividing the muscular strata, the edge of the quadratus lumborum was exposed, and beneath this the fatty and areolar tissue surrounding the kidney was found. Carefully scraping through this we came upon the kidney enclosed in its capsule, and dividing the latter carefully stripped it off from the renal mass. This operation was rendered difficult by the downward pressure of the lower ribs, and was accompanied by a free and rather alarming capillary haemorrhage from the vessels passing from the kidney to the capsule. As it was evident this could only be checked by ligature of the renal arteries, the capsule was as fully stripped off the ureters as possible, and the pedicle (including vessels, ureter, and capsule), was enclosed in a strong ligature. We found that chromic catgut ligature did not run free enough, or grip the pedicle as tightly as could be wished, and at the suggestion of Dr. Knox strong carbolised silk ligatures were substituted. Two of these were employed, one being placed as near to the vertebral column as possible and the other a little nearer the

kidney. The kidney was now partly cut and partly torn away from the pedicle, and on its removal, to our dismay an alarming spout from two of the renal arteries took place, the ligatures having slipped. Large pressure forceps were applied to the bleeding vessels, and successfully secured them; silk ligatures being then passed well over the forceps and firmly tied, we were able satisfactorily to arrest the haemorrhage. The cavity was now well washed out with a solution of corrosive sublimate (1 to 2,000), and an india-rubber drainage tube inserted, the wound being brought together by deep and superficial chromic gut sutures, and dressed with iodoform, sublimate gauze, and wood-wool pad.

In carrying out the details of my first nephrectomy (a trying operation even after some experience), I was fortunate in being ably assisted by my colleague, Dr. Knox.

The patient suffered from some flatulent distention for the first four days, and the temperature rose to 102° on the fourth day, when the first motion from the bowels after the operation was obtained, and this speedily brought down the temperature to the normal. From the 6th September onwards (tenth day after the operation) the temperature was practically normal. The dressing was changed on sixth day after the operation, and thereafter about once a week; the anterior part of the wound healed by first intention, the drainage tube in the back part prevented healing, and the sinus formed by it remained as lately as the beginning of November; it is now completely healed.

As to the excretion of urine, the immediate effect was, as in the former operation, a diminution in the quantity, then a steady rise, till the normal quantity was reached:—

Aug. 22.—44 oz.	Aug. 29.—21 oz.	Sep. 5.—20 oz.
“ 23.—32 “	“ 30.—20 “	“ 6.—21 “
“ 24.—38 “	“ 31.—22 “	“ 7.—24 “
“ 25.—18 “	Sep. 1.—20 “	“ 8.—38 “
“ 26.—19 “	“ 2.—13 “	“ 9.—40 “
“ 27.—24 “	“ 3.—17 “	
“ 28.—14 “	“ 4.—21 “	

The urine was in every respect normal, contained no albumen, blood, tube casts, or epithelial debris.

The patient's health is perfectly re-established, and she is plumper and more robust than she has been for years.

The pathologist of the Infirmary (Dr. Newman) has furnished me with the following report on the kidney:—

“ The kidney is smaller in size than normal, regular on the surface, very firm in consistence, and pale in colour. The

capsule has been removed. On section the normal markings are found to be entirely lost, and at one end of the organ there is an area about the size of a cherry, which has become softened and filled with putty-like material, but not containing a calculus. At the other end of the organ there is another softened area of larger size, and very irregular form; it involves nearly one-third of the entire organ. When washed and the contents of the cavity removed, the walls are found to be very irregular, and covered with a yellowish-green membrane, which, with a little force, may be detached from the renal tissue. Microscopic examination of sections of the kidney shows the disease to be tubercular."

In an elaborate statistical paper by the late Prof. Gross (*American Journal of Medical Sciences*, edited by Hays, July, 1885), it is stated that up to April, 1885, the kidney had been removed 20 times "for so-called strumous disease," with a mortality of 8, or 40 per cent. Of those dying from the immediate effects of the operation five had tubercle in the other kidney, the bladder, or other organs, while of the ten who recovered two died within a few months from tuberculosis, thus increasing the actual mortality to 50 per cent. From this, it is apparent that the operation is one of great gravity, and that the most important factor in obtaining a favourable issue, is the sound condition of the other kidney. Both Gross, in the paper cited, and Henry Morris, in his book on the *Surgical Diseases of the Kidney*, and in his article in the *International Encyclopaedia of Surgery*, regard the investigation of the condition of the second kidney as surrounded by difficulties and shrouded in uncertainties, so that at all times the operation must be a speculative one, and, in spite of all precautions, death from suppression of urine will frequently be the issue, from both kidneys being diseased. They are not ignorant of the various methods of catheterising the ureters, but Morris asserts that "none of the methods yet devised can be considered satisfactory." In the case just detailed, the operation of withdrawing urine from each ureter separately was simple, and the result of the investigation of the urine was satisfactory and decisive. Both when done by Dr. Newman, early in the progress of the case, and by myself, after an interval of many months, the urine from the right kidney was found to be quite normal, and that from the left to yield albumen, pus, and epithelial debris. We had also the satisfaction of knowing, to an absolute certainty, that the pus came from the kidney, and not from the bladder. Now, as the cases of disease of both kidneys in the above statistics

formed 35 per cent of the whole, and accounted for 70 per cent of the total mortality, it is plain that we must rely very much upon the results of using the ureteral catheters as our guide in nephrectomy in scrofulous cases; and that if the results are always as reliable as in my case, we can see our way to a very great reduction in what is undoubtedly an appalling mortality.

*This seems to me the first important inference to be drawn from the facts I have laid before you.*

Unfortunately, the ureteral catheter is now only of real use, and simple in introduction, in the female; in the male much requires yet to be done before it becomes an effective or reliable instrument.

Another encouragement to the performance of nephrectomy in the adult, whether male or female, arises from the statistical records as to the relative frequency with which both kidneys are affected, or one alone, in children and adults. These show that while in children under twelve, out of 28 recorded cases, 19 had both kidneys affected, 9 had one only; in persons over twelve, out of 67 cases, 28 had both kidneys affected, and 39 had one only. In children, therefore, it would seem that both kidneys are affected in 67.8 per cent of the cases, in adults, only 41.8 per cent.

Eliminating, therefore, the cases in which it is possible to ascertain beforehand the condition of the other kidney with some certainty, and putting aside the cases of children where the conditions are much less favourable, it would appear that the operation of nephrectomy for scrofulous kidneys is much less dangerous than has hitherto been thought.

But there is yet another circumstance to be taken into account. Although the terms "scrofulous" and tubercular are synonymous, they are not really so, for there is such a thing as miliary or disseminated tuberculosis, and, moreover, in children this is far more common than the "caseous" or scrofulous form. These deposits occur on the surface of the kidney and in the sub-mucous tissue of the pelvis of the kidney, vesiculae seminales, testes, ureter, and bladder. They do not, as a rule, tend to form abscess, and they affect both kidneys at the same time, as well as other internal organs, more especially the lungs. Operative interference is therefore inadmissible, for if attempted it is almost necessarily fatal.

Excluding cases of this nature we still further reduce the mortality from this operation. In the kidney, however, very rarely does disseminated tuberculosis produce any distinct kidney symptoms, so that the risk that a surgeon might be

tempted to remove such an organ is less than at first sight might appear.

A question which has been much discussed now suggests itself:—Is it best to perform (as I did here) a preliminary nephrotomy, or should the kidney be at once removed when the true nature of the affection is ascertained? In the 20 cases cited above, previous nephrotomy had been performed in 8 cases, and in these the mortality from the subsequent nephrectomy was 4 per cent less than where extirpation was done as a primary operation. But in no case was any real relief afforded by the incision, and I cannot call to mind a single recorded instance of a cure resulting from nephrotomy alone in scrofulous kidney. If a large abscess cavity exists there is no doubt that the evacuation of it, and the contraction which follows, allows of extirpation by a smaller wound than would otherwise be required, and that there is less risk of peritoneal adhesions, and consequently less risk of wounding that structure. It is seldom, however, that one large cavity exists, commonly there are several small ones; the contraction, therefore, is slight, and the evacuation of one such cavity does not materially affect the rest. Moreover, the long continued drain from the sinus formed offers a serious menace to the health of the other kidney, and the time lost may have been occupied by tubercular deposit taking place in other organs. As Gross says:—“It appears as if previous incision might be wisely refrained from, and the kidney be extirpated in the early stage of tubercular disease, especially as excision may relieve the patient of a source of general infection.” Yes, that is very good! But on what are we to base a sufficiently secure diagnosis to justify so bold a procedure? There is nothing in the early history of the disease whereby it is possible to distinguish scrofulous pyelo-nephritis from that due to renal calculus, while in the later stages extirpation is often out of the question, and incision the only possible treatment. It is true that in the intermediate stage caseous masses are occasionally found in the urine, but their extreme rarity makes them of little value in a diagnostic point of view. Now in renal calculus nephrotomy is not only justifiable, it is in most cases an effective cure, for if the kidney is incised and the calculus removed, the kidney will recover, and the sinus after a time probably close. In the present state of our knowledge, then, I doubt if it would be justifiable to remove a kidney, however strong might be the presumptive evidence as to the disease being scrofulous, without first opening the abscess and ascertaining that there was no calculus present. But having ascer-

tained by incision and the use of a probe that no calculus was present, it would be quite the right thing to do to perform nephrectomy at once, and so avoid the risks of a long discharging cavity.

Another point on which opinion is still divided relates to the comparative advantages of the lumbar or ventral incisions. The mortality after the lumbar operation for scrofulous kidney is, according to Gross, 53·84 per cent, while that from the ventral operation is only 14·28 per cent; but the same statistician tells us that taking nephrectomies for all causes, the mortality is 50·83 per cent for the ventral, and 36·93 per cent for the lumbar. There is here a curious discrepancy, which is probably the result of the smallness of the figures for nephrectomy in scrofulous kidney; for we know of no reason why in these cases it should be more advantageous to open the peritoneal cavity and displace the intestines, than to operate, leaving them untouched. Notwithstanding all the liberties that have in recent years been taken with the peritoneum, I am sufficiently old fashioned to regard more favourably an operation which respects its integrity in the removal of an organ lying clearly behind it, than one which divides it both in front and at the back of the abdomen, and my surgery is sufficiently antiquated for me to still value a good dependent opening for drainage of the wound. Certainly, in my case, the lumbar wound gave us quite satisfactory access to the kidneys, and we were able to reach the pedicle without undue traction.

Being anxious, if possible, to combine the advantages of the two methods, I made some experiments on the dead body as to the feasibility of making an incision along the outer edge of the rectus muscle, down to the peritoneum, and displacing this membrane with the abdominal contents inwards, so as to raise it from the front of the kidney. This I accomplished without difficulty, but found that the antero-posterior depth of the abdomen was so great that a very large wound was required, and the kidney was so far from the surface wound that it was very difficult to reach the pedicle and apply the ligature, and quite impossible to bring the organ to the surface till the pedicle was divided.

The incision which gives freest access to the kidney in the lumbar region is very nearly the same as that made in lumbar colotomy, being, however, a little more transverse; while it facilitates removal of the organ to keep as near to the lower border of the last rib as possible (especially on the left side, as the kidney is higher up than on the right). We must not

forget that Lange has shown that in many instances the pleura comes below the level of the last rib, and that there is consequently a real danger of injuring that structure. If, however, a good half inch is left between the incision and the rib, there will be no such danger, and further space can be gained by getting an assistant to draw the lower ribs upwards, so as to uncover the upper end of the kidney.

In properly selected cases, the operation of nephrectomy is both valuable and safe. In the selection of such cases wide knowledge and much discrimination is required; hitherto our experience has been tentative rather than assured; and if the surgeons present can add some little to the sum total of our knowledge, neither the reading of this paper nor the discussion will have been in vain.

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### SEMINAL VESICLES.

By JAMES T. CARTER, F.R.C.S.E.,  
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BEING interested in some remarks and observations made by John Hunter on the functions of the seminal vesicles, I thought a favourable opportunity presented itself to observe any difference both as regards their structure and contents, which may be present, as they are found in the entire horse and gelding. The result of a number of dissections made in both animals immediately after death may be briefly summed up as follows:—No appearance of atrophy is seen in the organs of the gelding, both the structure and average capacity, which is about  $1\frac{3}{4}$  oz., being the same in both animals. The vas deferens, however, presents a striking difference, the thickened termination which extends for some distance along the canal in the stallion having entirely disappeared, the walls having become thin and the calibre of the tube diminished after castration.

The amount of fluid contained in the vesicles of the gelding often amounted to as much as  $\frac{3}{4}$  oz. It was thick and viscid, and had a milky appearance. It has a neutral reaction, and coagulates into a soft jelly shortly after death. Under the microscope it is seen to contain a large number of coarsely granular, roundish, nucleated cells with granular *debris*, and after keeping a small quantity in a test tube for a short time, the soft jelly-like mass becomes slightly more fluid, and the cells and *debris* fall to the bottom, leaving a clear looking

semi-fluid substance with a slight brown colour. The fluid contained in these organs in the stallion was the same with the addition of a few spermatozoa, but not in the numbers seen in the semen after ejaculation.

The generally accepted opinion of the function of these bodies is that they form a reservoir for semen, and thus, in a manner, resemble the gall bladder, which acts as a reservoir for the bile. Hunter was distinctly of the opinion that the seminal vesicles are not reservoirs for semen. He arrived at this conclusion from observations on castrated guinea pigs, and after examining the bodies of several subjects which had the testicle of one side removed some time before death. In each case the vesicle of the extirpated side was as full of fluid as that of the other side.

Taking together all the facts known in connection with the seminal vesicles, I think it is more probable not that they act simply as receptacles for semen as secreted by the testicles, but secrete themselves and store up a fluid which acts as a medium and diluent to the fluid formed by the testicles; the latter fluid being in a concentrated form and only secreted in quantity at stated periods, as in the rut of some animals, or kept in reserve in the enlarged termination of the vas deferens, as is found in man and some animals, and especially in the elephant.

During ejaculation, the obliquity with which the seminal vesicles join the vas deferens to form the common ejaculatory duct favours both the mixture and expression of the fluids contained in them into the urethra. Strong vermicular action of the vas deferens would force the secretion of the testicle along this canal into the ejaculatory duct, and, at the same time, powerful spasmoidic contractions of the seminal vesicles would force the fluid contained in these organs with violence also along the ejaculatory ducts, carrying along with it the testicular secretion into the urethra.

That no atrophy of these organs takes place after castration, and they continue to secrete a fluid when the vas deferens has considerably diminished in size, would amply suffice to prove that they act as secreting organs. In some of the rodents also, they open by a separate orifice in the urethral canal.

It is rendered probable, from an examination of the comparative anatomy of the accessory organs of generation, that they have more or less a similar purpose to perform, and also from the fact that they make their first appearance in the vertebrata together with a closed urethral canal. This may

account for the necessity of an increased bulk of seminal fluid. The secretions of all these organs are more or less viscid. The prostatic secretion in the horse is a thickish, semi-fluid, clear, viscid substance with a brownish colour, which hardens very rapidly after death. Under the microscope it is seen to contain cells similar to those of the vesicular secretion, columnar in shape, nucleated and finely granular, but few in number.

The accessory organs are absent in reptiles, birds, and fishes, but appear in the monotremata and marsupials with a closed urethra. In a number of animals one or other of the glands may be absent; in the monotremata the seminal vesicles are wanting, but they appear to be compensated for by the relatively large size of Cowper's glands. In the rodents the seminal vesicles are generally large; in the gray squirrel, however, the vesicles are small, the prostate and Cowper's glands being of increased size. In the carnivora the seminal vesicles are absent, and in the bull they have the appearance of two lobulated masses, the prostate being small and Cowper's glands absent. There is also a diversity as regards the form of these organs in different animals, the prostate consisting of short pyriform sacs in the beaver and of convoluted tubes in the rat.

Taking into consideration the appearance of the seminal vesicles, together with the prostate and Cowper's glands, with a closed urethra, their variations in appearance, the fact that one or other organ may be wanting, and their secretory function being carried on without diminution as regards quantity in a castrated animal, it becomes exceedingly probable their secretion has a dual duty to perform, acting not only as a diluent to the spermatic secretion, but possibly also as a protective lubricant to the urethra.

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## DIAGNOSIS AND TREATMENT OF PLEURITIC EFFUSION, WITH ILLUSTRATIVE CASES.

By WILLIAM F. GIBB, M.D., Surgeon to Paisley Dispensary.

IN a typical case of primary uncomplicated acute pleurisy, the course of which has been under observation from the outset, there can scarcely be much difficulty in detecting the occurrence of effusion, and of keeping tally with its progress from day to day. But one's decision is apt to be called for in cases

of a less frank and clear nature, in which our skill is fully taxed, before we can feel comfortable and secure in our diagnosis. Effusion is liable to come on quietly and insidiously, and we are occasionally challenged to pronounce upon a case, presumed to be one of slight illness, which proves, on examination, to be a considerable effusion. The following two cases may be given as examples of this:—

1. An old woman, inmate of Glamorgan County Asylum, a quiet dement, in frail health, was reported to be growing very feeble, requiring help in walking and refusing to take food. On examining her the lips were observed to be livid, and respiration hurried; lower half of right side of chest dull, with abundant mucous rale. Temperature, 100°; no cough; no distress of any kind. She was confined to bed, and remained for three days much in the same condition, when she died quite suddenly. The right pleura was found to contain about 2 pints of sero-fibrinous fluid, and the lower lobe of the lung was collapsed.

2. W. L., age 26, teacher, had been for two years previously dyspeptic, and below par in point of health. During the month before I saw him, he had been occasionally troubled with pain in the left side.

On 13th February, 1886, he was out of doors, but felt weak and easily run out of breath, and noticed his heart beating rapidly. The cardiac impulse was found a little to the right of the sternum, left side dull to second rib, v.F. absent, and R.M. very faint over dull area; oegophony well marked behind; lower ribs bulging; first interspace hyper-resonant, with tubular breath-sounds and prolonged expiration. T. 100°, R. 22, P. 112. During the next six days the fluid increased gradually, and on 19th February Dr. Fraser, who was in charge of the case, removed by aspiration 78 oz. of sero-fibrinous fluid.

(I may add that the patient made a rapid recovery, with but slight retraction of the chest.)

In deciding whether there is fluid in the chest, there is a limited number of signs of especial importance. The first is the dull percussion sound—a dull, heavy note, devoid of resonance. Along with this one observes a feeling of peculiarly dead resistance. These two signs, taken together, are of the utmost consequence, especially when other physical signs are not well marked. The distribution of the area of dulness is of importance. Except in cases where the fluid is encapsulated, it may be observed generally that the dulness begins in the lower part of the chest, and tends to spread in an upward

direction, that it extends higher behind than in front, and that if one half of the chest be almost entirely dull from fluid, we may count upon finding in two situations a note which is resonant—viz., at the inner part of the highest interspace in front, and posteriorly high up between the scapula and the spine. As to other physical signs, some importance attaches to weakening or absence of the R.M., V.F., and V.R. Changes in these phenomena always occur to a varying extent, and we may find often enough the change in one out of all proportion to that in another. This is the case especially in small effusions. Where the volume of the fluid is large, these signs are usually nearly, or quite suppressed. About the angle of the scapula, however, tubular breathing is the rule, and also in the sub-clavicular region.

Reference has been made purposely to such signs as form the important factors in the early diagnosis of effusion. Other signs, such as those dependent on the displacement of organs, may be present, but on the strength of those mentioned the presence of fluid may be decided safely before signs of displacement show themselves. One circumstance, suggestive of a considerable effusion, and depending upon compression of the lung, is the existence of a limited area of dull tympanicity in the upper interspaces, the lower part of the chest being dull.

The question as to the nature of a pleuritic effusion is confessedly puzzling. There is little room for doubt that an effusion may from the first be purulent—e.g., in the case of children convalescent from scarlatina; pus may form rapidly, just as sero-fibrinous fluid does, and the symptoms may not be unusually severe. On the other hand, a sero-fibrinous effusion may be attended by severe urgent symptoms, leading one to fear the formation of pus. The most careful observer is apt to mistake the nature of the fluid in such cases. Various phenomena have been held to indicate a purulent exudation: the occurrence of repeated strong rigors; persistence of high evening temperature, 104° or more, after the third week; great and persistent pain; œdema of the chest wall; Bachelli's sign (mentioned by Dr. Rickards in *Brit. Med. Journal*, 20th November, 1886—viz., greater diminution of breath and voice sounds in purulent than in serous effusions; lastly, long continuance of a copious effusion. I do not believe that any one of these signs can be safely reckoned trustworthy; the presence of several of them in any case, however, would probably be enough to make us strongly suspect pus. But at present there is only one test which can be absolutely depended upon, and that is aspiration. For this purpose a syringe about

twice the size of a hypodermic, with needle, is commonly used; but I think the better plan is, not to interfere at all unless we consider the case calls for the withdrawal of a quantity of the fluid, for purposes of treatment, when the insertion of the aspirating trocar and cannula reveals at the same time the character of the fluid.

Regarding the treatment of sero-fibrinous effusions, the utmost diversity of opinion obtains, but the tendency of the present day appears to be in the direction of a rational method. We know that an accumulation of fluid in the pleura is a dangerous affair, and at the same time that it is in uncomplicated cases, amenable to treatment in one form or other. It may be unnecessary in a case of pleurisy with a moderate amount of sero-fibrinous exudation, where there are no symptoms of any urgency, to do anything but watch progress, and follow a simple line of treatment, with the result that the patient's condition improves, say in two or three weeks, and the fluid disappears. The drug treatment recommended by Fræntzel in cases of this sort, consists in giving potas. acet. with cinchona, and applying flying blisters. Iodide of potassium he declares to be quite inert. But effusion may occur to such an extent as to place the patient in an obviously critical condition, and I take it that in such a case we are bound to consider the advisability of relieving the patient by puncturing the chest, without undue delay. The arguments against tapping are of little weight, and are chiefly occasioned by faulty methods of performing it. Let us briefly glance at them.

(1.) Danger of pulmonary œdema, accompanied by profuse albuminous expectoration. This complication has proved fatal. It is caused by withdrawing the fluid too rapidly, and is therefore easily avoided.

(2.) Admission of air, or of septic material, setting up suppuration. This is the result of using faulty, or imperfectly cleansed instruments, and is therefore quite avoidable.

(3.) Danger of wounding intercostal artery. This accident rarely happens, and the haemorrhage is readily controlled by pressure.

(4.) Danger of wounding important organs may be considered very small, if ordinary care be used in choosing the site for puncture.

(5.) The fear of re-accumulation, Dr. C. Allbutt declares emphatically to be a bugbear (*Practitioner*, 1872, II, p. 79), "that is, in all cases where the plea is relevant." No doubt re-accumulation occurs in dropsical effusions — though not

always—but it does not occur in those for which this operation is intended—viz., the sero-fibrinous.

(6.) Lastly, the danger of sudden death. The removal of fluid from the chest is often attended by faintness, and a few fatal cases, some of them attributed to syncope, are on record. But these are exceedingly rare accidents. In the hundreds of cases treated by Bowditch and Troussseau, no such fatality occurred. However, in performing paracentesis this danger must be guarded against, by administering a little stimulant before beginning, by using local anaesthesia—either freezing the surface, or perhaps, injecting cocaine—if the patient be nervous; by placing him in the lying or half-lying position, aspirating slowly with a small sized cannula, watching the patient's condition closely, stopping from time to time if there be any sign of faintness, and having restoratives at hand. Among these amyl nitrite should find a place.

Let us now look at the other side of the question: What is to be said in favour of tapping?

(1.) It not only relieves the patient quickly of a great burden of fluid which otherwise, in many cases, keeps him bedfast for an indefinite period, but it also powerfully excites the absorptive process, by removing the excessive pressure on the lymphatics, and enabling the remaining fluid to flow off by them.

(2.) It cuts short an illness which is liable in many cases to be protracted, and which then exposes the subject of it to grave risks, such as caseating pneumonia, tubercular disease, permanent condensation of the lung substance, and doubtless also empyema.

(3.) In large accumulations, death sometimes occurs from suffocation, from acute œdema of the sound lung, and from syncope. Fræntzel relates a case, similar to others he knew of, of large effusion, where death occurred suddenly. He saw the case late in the evening, and determined to puncture next day. During the night the patient called out for help, and immediately expired. The effusion was left-sided, and examination showed that the vena cava near to the quadrilateral foramen, was twisted almost at a right angle. What circumstances then call for paracentesis? Bristowe strongly recommends it “if the effusion tend to increase, and the patient suffer from dyspncea.” In his prize essay, N. Porritt says, “If the fluid is increasing, do not let it fill the pleural cavity. If you find it at the level of the middle of the scapula, and there be no urgent symptoms, watch it, and if it rise higher, tap. If the recently effused accumulation fill more than one-

half of the pleural cavity, if it remain stationary for more than a week, and if pyrexial symptoms continue, our aid must be given. Supposing the chest full, the lung squeezed, the heart displaced, or the diaphragm depressed, although there be no subjective symptoms whatever, paracentesis should be at once performed: but if there be no displacement of organs a week may be allowed to elapse. And lastly, if the patient be losing flesh, suffering from malaise, feeble circulation, irregular pulse, and dyspepsia, for all of which no other cause save the pressure of fluid can be assigned, we should tap." These may be taken as the views of the Leeds School, and for my part they appear to rest upon thoroughly good grounds. There can be no rule as to how many days the illness may be allowed to continue before tapping: thus e. g., in a case recently reported by Rickards (*Brit. Med. Journ.*, 20th Nov., 1886), a child of seven was seized with post-scarlatinal pleurisy, and on third day of illness the left chest was full of fluid, and the symptoms being urgent, 34 oz. of pus were withdrawn by aspiration. It is impossible to discuss fully the question as to the most favourable position for puncture: probably the seventh or eighth interspace in front of the posterior axillary fold is about the best all round. Failure and danger attach to interference much lower down, and by going higher one is apt to leave too large a quantity of fluid behind. It is important to withdraw the fluid leisurely, for reasons before mentioned. Allbutt advocates the use of the smallest cannula that can be relied upon as sufficiently strong. He finds that it is not the small, but the large cannula which blocks most readily with fibrin.

The following case illustrates the beneficial effect of paracentesis, and its successful application under grave conditions:—

M. N., aged 18, bleacher, admitted to Paisley Infirmary, 27th April, 1886, under care of Dr. Fraser. Two years previously she had acute rheumatism. Present illness dated back about two months. She complained on admission of pains in the head and in the joints. Tongue furred. T. 103°, P. 120, R. 28. Cardiac impulse obscured, marked epigastric pulsation, and pulsation of jugulars. Left side of chest dull to first interspace, which was hyper-resonant. At the epigastrium, an obscure murmur. In two days dulness had reached the clavicle. Patient's condition was alarming; there was considerable dyspnoea and lividity; pulse weak and irregular, venous regurgitation more marked; patient very nervous and apprehensive. As it was plain that the only hope of saving her lay in aspirating, Dr. Fraser withdrew

## THE TREATMENT OF ERYSIPELAS.

By ROBERT POLLOK, M.B., F.F.P.S., POLLOKSHIELDS.

(*Excerpt of paper read at the Southern Medical Society, 23rd December, 1886, as an introduction to a professional conversation on that subject.*)

THE treatment of erysipelas is most varied, nearly every practitioner who sees much of this affection having formulated a certain line of action for himself. This arises to some extent, I think, from the fact that simple erysipelas has a tendency to subside spontaneously in about 5 or 6 days, and often the treatment adopted obtains the credit while nature does the work. Some authorities have strongly advocated an expectant treatment, and statistically obtained excellent results—*e. g.*, Troussseau.

I am of opinion that the treatment must depend upon the type of the disease. In all the cases I have seen, the treatment demanded was a stimulating one. I refer to simple general erysipelas. But in localised erysipelas affecting the throat, ear, and pharynx, aconite in small doses, frequently repeated as recommended by Ringer, has been productive of the happiest effects when administered at the beginning of the attack. I will take as a typical example of simple cutaneous erysipelas that form which we so commonly see, commencing over the root of the nose, and spreading over the face and forehead. In such cases, I immediately begin the administration of 20 to 30 minims of *tinct. ferri mur.* (diluted of course with water) every two hours; and as a protective and palliative, I use the following preparation:—

R. Gutta Percha,	.	.	.	.	.	5ii
Chlorof. Meth.,	.	.	.	.	.	3ii solve.
Zinc. Oleati,	.	.	.	.	.	3ii
Iodoformi,	.	.	.	.	.	3ss.

Sig.—To be painted over the part affected. M.

The advantage of this preparation over the powdered starch, zinc, or flour, is its comeliness. Of course, previously to applying this preparation, I have the parts carefully washed with tepid water, and often when there is much pain I use the decoction of poppy heads as a fomentation. This treatment usually effects an amelioration of the symptoms, and the disease subsides. But in some cases the course of the disease does not stop here, it runs riot all over the head and neck, and the medicinal treatment then pursued is ammonia, bark, iron, and quinine with perhaps a grain of solid opium to

obtain rest. I am happy to state that I have never lost a case of erysipelas, although the duration and severity of the complaint have varied much.

The *rationale* of the local application above mentioned must be purely protective and palliative by excluding the irritating effects of the cold air, and not by excluding specific germs. The latest researches prove that the schizomycetes or streptococcus erysipelatus is anaerobic, or flourishes where air is excluded, living in and upon the tissues affected.

I may note the many methods of treatment recommended, such as compression, or ligatures applied above the seat of the affection, advocated by Velpeau; the application of a solution of nitrate of silver in the form of a ring around the redness (Higginbotham's method); the application of tincture of iodine, white paint, solutions of tannin, silicate of soda, used by Alvarenga of Lisbon; the subcutaneous injection of carbolic acid or salicylic acid directly into the part, and the internal administration of quinine in large doses, or salicylate of ammonium, suggested by Dr. Barclay of St. George's Hospital. These may all be good, but so satisfactory have been the results by the iron and the antiseptic anodyne externally applied, that I have had no reason to depart from that treatment. I earnestly look after the hygienic surroundings of the patient, and give eggs, milk, beef tea, and other stimulating and light diet. The disease may, however, pass into a stage when surgical treatment must be adopted. If simple bullæ or vesicles form I relieve the tension by evacuating them, and dress the surface with tartrate of potash and iron lotion in the strength of 10 grains to the ounce of water. When sloughing and suppuration take place I make free incisions; the pus and sloughs thus obtain a free exit; the separation of the mortified parts may be accelerated by the scissors. I then apply an antiseptic solution by means of the syringe or douche, dry the parts thoroughly, and dress with sublimated wood wool.

The best antiseptic lotion in my hands is corrosive sublimate, or Koch's solution, which contains one grain of bichloride of mercury in five ounces of water, or nearly in the proportion of 1 to 2,000. Koch's solution, as it is now called, is simply the same as the old "M'Kenzie's collyrium," which that celebrated oculist used so extensively and so beneficially in purulent conjunctivitis and other eye affections.

When it is remembered that heat, moisture, and confined air tend so rapidly to death and putrefaction, the advantages of dry dressings in this and in other surgical cases will be at once acknowledged.

An important point which should not be overlooked in the treatment of erysipelas as well as in so many other affections, is the effectual clearance of the *præmæ viae* by a good purge, administered at the commencement of the attack.

If erysipelas assume a typhoid form, alcoholic stimulants are strongly indicated. Infantile erysipelas I treat on the general lines laid down, although the tincture of iron is not so admissible owing to its griping tendency; acetate of iron is less irritating. When erysipelas commences in the throat, inhalation, or the steam atomiser, with some antiseptic, should be used. I watch carefully for œdema glottidis. If it does occur, tracheotomy is the only resource.

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### ILLUSTRATIONS OF THE OCCURRENCE, AND OF THE GRAVITY, OF DIABETES MELLITUS IN EARLY LIFE.

By T. M'CALL ANDERSON, M.D.,  
Professor of Clinical Medicine in the University of Glasgow.

In the April number of the *Glasgow Medical Journal*, an interesting case of Diabetes Mellitus, in a girl nine years of age, is reported by Dr. William Frew, of Kilmarnock, and he there remarks upon the extreme rarity of the disease in children under ten years of age. In this connection the following cases will probably be of interest to the readers of the *Journal*.

On the 7th of July, 1881, on the recommendation of Dr. M'Gowan, of Millport, a gentleman called upon me, bringing with him a specimen of his daughter's urine. She was two years and three weeks old, and between five and six weeks before his visit, she began to droop; her appetite also failed somewhat, and she suffered from thirst, with progressive loss of flesh and strength. Her urine was pale (its quantity I could not ascertain), its specific gravity was 1038, and it was loaded with sugar. She died (9th July) two days after her father's visit to me, and before I had the opportunity of seeing her—*i. e.*, within six weeks of the onset of her illness. A *post-mortem* examination could not be obtained.

On the 8th January, 1884, I was requested by Dr. Edward M'Millan to see with him a little girl  $2\frac{1}{2}$  years old, who had previously enjoyed good health. Nine days before this time she fell, alighting upon her hands, and was not supposed to

have hurt herself at all. The following day, and more or less thereafter, she suffered from the most intense consuming thirst, with profuse urination, and a tendency to coldness, livity, and collapse. The day before my visit, she was reported to have vomited everything.

When I saw the child, I found that the vomiting had ceased, but that the other symptoms continued. The pulse was of fairish strength, but was distinctly irregular as to force and time; there was some emaciation, and the temperature registered 95° F. The quantity of the urine could not be ascertained, but it was very pale, intensely acid, specific gravity 1037, contained a slight trace of albumen, and a large quantity of sugar, the quantitative analysis with Fehling yielding 5 per cent. There were no head symptoms whatever. The treatment recommended was the administration of warm fluid food—saccharine, and amylaceous matters being avoided—nutritive enemata, external warmth, and a teaspoonful of brandy every hour. Granules of morphia ( $\frac{1}{100}$ th of a grain) were to be continued and cautiously pushed.

The day following my visit, Dr. M'Millan wrote me that although the temperature the previous evening rose to 99.8°, no improvement in the symptoms occurred, and that the child gradually sank and died at 3.30 p.m. on the 9th of January—i. e., 9 days from the first commencement of the symptoms.

A *post-mortem* examination was made by Drs. Coats and Steven, the brain being carefully examined, but nothing was found, with the exception of slight anaemia of the brain, and some fatty change in the renal epithelium, such as might be accounted for by the intense diuresis.

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## A NEW UTERINE DILATOR FOR GYNÆCOLOGICAL PURPOSES.

BY WILLIAM L. REID, M.D.,  
Physician to the Glasgow Maternity Hospital, and to the Dispensary  
for Women, Western Infirmary.

I THINK it unnecessary to take up time discussing the question of the usefulness of uterine dilators, it being now generally admitted by other than specialists that where remains of the product of conception are retained in the uterus, where there are obscure intra-uterine tumours, where there is stenosis of the cervical canal, and in certain forms of dysmenorrhœa,

accompanied, in married women, by sterility, dilatation of the canal of the cervix uteri is a very useful operation. I think I may also say that the great majority of practitioners of much experience now speak in favour of rapid dilatation. Some hold by one form or other of cutting operation, but most recommend and practise rapid dilatation by means of expanding bladed dilators or some form of bougie. Of the latter, those of Fritsch, Tait, and Hanks are considered the best, although a form, which I show you, devised by Dr. Samuel Sloan, seems to me an excellent one. Of the former there are many varieties, the best of which I believe to be this one of Ellinger's, with parallel blades and cross-joints.



I have been disappointed in the use of dilators in two different ways. The two or three bladed dilators have blades which, taken together, are either so large as not to be able to pass a stenotic cervix, or so thin that when opened they simply refuse to expand near the points where divergence is most wanted. The solid bougies, on the other hand, while free from this defect, require to be passed forcibly into the uterus, and give rise to such extreme pain that I was fain either to resort to chloroform or be content with very slight dilatation. These drawbacks led me to try to overcome the difficulty by constructing blades of such a form as to combine the greatest possible strength and the least possible size, and yet necessarily with somewhat flattened faces. A rough form of one of these with a convex, fitting into a concave blade, I now show you. But even this could not be made at once fine enough and rigid enough. It then occurred to me that a set of conical screws could be constructed with a thread so sharp as to take

its bearing on the walls of the cervix, and yet so blunt as not to do damage by cutting. I may at once say that I believe it to be quite impossible to thoroughly dilate an organic stricture without some destruction of the continuity of the tissues. I hoped thus to secure great power in overcoming stricture in any part of the canal with the minimum of damage to any

single part of it. The instrument so devised I now show you. There are five conical screw-heads, the point of the smallest being  $\frac{1}{8}$ th of an inch (3mm.) in diameter, and the butt of the largest 1 inch ( $2\frac{1}{2}$  cm.), so that any amount of dilatation between these two measurements may be obtained according to the wish of the operator. Of course, the latter amount can only be necessary when free access to the interior of the uterus is required for operative purposes. At first the heads were fixed to the handle by means of a simple screw, but this led to difficulty in withdrawing the instrument easily. Mr. Hilliard, who made the instrument for me, suggested the present plan of fixing the points by means of a simple spring formed by the steel handle being cleft at its upper end. Frequent use has shown that this serves the purpose well.

I feared that the thread of the screw, blunt as it is, would cause a considerable amount of bleeding, but this has not been found to be the case.

In order to keep them light the large heads have been hollowed out. This leads to the necessity for cleansing them thoroughly, and steeping them in an antiseptic fluid every time they are used. I prefer boiling them for a few minutes.

The dilator should be used in the following manner:—If there are any decomposing fluids in the uterus or vagina, the latter ought to be well washed out with some antiseptic fluid, and the former irrigated by means of a double cannula. If the canal of the cervix is too small to permit of this, then a fine Playfair's probe, carrying caustic carbolic acid, should be passed. The operator ought to begin with the largest screw-head whose point can be got to enter the os externum.

Sometimes the thread does not readily catch in the tissue of the cervix, and it becomes necessary to fix the latter by means of a single tenaculum, and press the screw onwards until it is found to bite. The tenaculum is then removed, because now the process is the opposite of what takes place with the bougie; it is not pressed into the uterus, but the uterus is drawn down over it. The screwing is slowly continued until, if well borne, the butt of the screw-head disappears within the os externum. If further dilatation is thought necessary, this screw-head is quietly withdrawn, and a larger applied and inserted in like manner.

During the last two years at the hospital, and in private practice, I have used this instrument in some dozens of cases, and thought of giving some details of them here. But it would only amount to this, that a certain number of cases of dysmenorrhœa have been relieved, and a few cured without

any bad result following, to my knowledge. It has also seemed to me that the pain caused by its use has been much less than for the same amount of dilatation by steel bougies. I am quite sure that it is more efficient than the two and three bladed dilators which I have formerly used. In about half the cases of dysmenorrhœa operated on, no benefit has resulted. I have had but one case of lengthened sterility, where pregnancy supervened after its use, and this was a case of anteflexion with stenosis of the os internum, of fifteen years' duration, dating from marriage, and the onset of well marked dysmenorrhœa.

I have had other cases in which pregnancy, for the first time, followed, but I do not count a woman sterile until she has been four or five years married, and therefore do not consider these as cures.

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## CURRENT TOPICS.

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**THE ABUSE OF MEDICAL CHARITIES.**—The Glasgow Southern Medical Society has reason to congratulate itself on the very large and enthusiastic meeting which assembled under its auspices in the Faculty Hall, on the 30th March last, to carry the resolutions prepared by the committee appointed on the 6th May, 1886, to consider the question of the Abuse of Medical Charities. We do not remember having seen a larger public meeting of practitioners, and the only time within recent years that we have seen the Hall more crowded was at the opening of the Medico-Chirurgical Society's recent discussion on Cerebral Abscess. Dr. James Morton, President of the Society, occupied the chair, and in a brief address explained to the gentlemen present the objects of the meeting, after which he called upon Dr. John Pirie, to move the first resolution, as follows:—"That this meeting is of opinion that the gratuitous medical aid given at the Out-door Departments of the Hospitals, and at the Public Dispensaries of the City, is of such an indiscriminate character as to be prejudicial to the moral independence of the recipients, the real objects of the Institutions, and the best interests of the profession." This resolution was seconded by Dr. Alex. Patterson, and supported by Dr. G. H. B. Macleod. The second resolution was proposed by Dr. John Glaister in the following terms:—"That this meeting considers that the time has now arrived when gratuitous relief should be administered on a systematic and definite plan, and

should be of such a character as to prevent overlapping, and aid only the really needy and deserving poor." Dr. Gilmour seconded, and Dr. M'Gregor Robertson supported the motion. The third resolution—"That a committee be appointed to consider the whole question, and to adopt the best means whereby the foregoing resolutions may be carried into effect," was proposed by Professor George Buchanan, M.A., M.D., seconded by Dr. David N. Knox, M.A., and supported by Dr. Richmond. Letters of apology were intimated from Professors M'Call Anderson and W. T. Gairdner, the latter gentleman expressing in his letter, which was read by the chairman, his entire sympathy with the objects of the meeting. As the speeches of the various speakers were fully reported in the daily papers, it is unnecessary to say more of the meeting.

The committee appointed at this meeting met on Friday afternoon, 22nd ult. Prof. James Morton, M.D., was appointed chairman. Other office-bearers and members of the executive committee were elected. The initial steps of proceeding to deal with the whole subject of the abuse of medical charities were considered, and it was deemed advisable to confer with the Council of the Charity Organisation Society, and to invite the managers of the various institutions in the city to meet with the committee, and become members of it. Various other important matters were considered.

**GLASGOW ROYAL INFIRMARY.**—During the past month, several meetings of the Infirmary staff have been held, for the purpose of considering whether it would be expedient and beneficial to institute an annual social gathering of the members of the staff, and to form a Clinical Society in connection with the Hospital. There was but one opinion as to the former proposal, and all were agreed that an annual social gathering would do much to strengthen the bonds of union between the individual members of the staff, and promote those feelings of friendship and brotherhood which should always exist amongst the medical officers of a great public institution. We are informed that a dinner of the members of the staff will be held in May. With regard to the second proposal there was very considerable difference of opinion, and it was felt by many that the existence of such a society would tend, if not to injure, at least to clash with the other medical associations of the city. It was also thought, even by gentlemen who favoured the proposal, that, unless absolute and unqualified success could be guaranteed, it would be a mistake to originate such a society. It was, after due discussion, agreed to form a clinical society, and the details

were left to a committee. One gentleman stated that one thing which made him anxious to have the society was, that by means of it he saw the possibility of ultimately being able to publish Hospital Reports. Now, there can be no doubt that if there were a certainty of this being accomplished, it would form one of the strongest arguments in favour of the formation of a Royal Infirmary Clinical Society.

**THE "JOHN REID" MEDICAL PRIZE.**—The prize founded by Miss Reid in memory of her brother, the late John Reid, Surgeon, Glasgow, is awarded for the best original research bearing on any of the departments of medical science conducted in one of the hospitals or laboratories of Glasgow. The prize—which is of the annual value of £25—has, at meeting of the trustees, been awarded for one year to Mr. R. C. Wakefield for an able paper on "Aneurism."

**STROPHANTHUS—THE NEW HEART TONIC.**—We have recently had forwarded to us for inspection and trial specimens of Messrs. Burroughs, Welcome, & Co.'s (of Snow Hill Buildings, London) tincture and tabloids of strophanthus. The tincture is a most elegant and beautiful fluid; it is made up in half ounce bottles, the initial dose being two minims. The tabloids are put up in bottles containing 100—each tabloid containing two minims of the tincture, the dose being from two to four tabloids, followed by a mouthful of water. We have had the opportunity of trying the tabloids in out-patient practice, and have been much pleased with them, the great advantage being that in this form the dose is fixed, and can be regulated with absolute certainty. In one case of aortic obstruction and regurgitation with great dyspnoea and faintness on exertion, the administration of one tabloid every 4 hours during three or four days proved most beneficial. The patient informed us that before taking the strophanthus he had to stop and rest every few yards in coming to the Hospital, and that after taking some 30 tabloids or so he experienced great relief, was able to walk to the Dispensary at a slow pace without stopping, and could even go up his flight of stairs with much greater ease. We were also able to detect a distinct improvement in the pulse after two or three days' use of the drug. According to Professor Fraser, strophanthus possesses this great advantage, that it strengthens the action of the heart without at the same time causing contraction of the arterioles. We have much pleasure in recommending these preparations of it to our readers.

**INTERNATIONAL MEDICAL CONGRESS.**—*Committee of Arrangements.*—The following memorandum is published by order of the local Committee of Arrangements for the information of persons desiring to attend the Ninth Annual Meeting of the International Medical Congress in Washington, D.C., in 1887.

**MEMORANDUM.**—*Rates of Transportation.*—Red Star Line, \$100; Antwerp to New York and return. Inman Line, \$100; Liverpool to New York and return. Hamburg Line, \$90; Hamburg to New York and return. Royal Netherlands, \$80; Amsterdam to New York and return. North German Lloyd Line, \$187.50; Bremen to New York and return.

Same rates are allowed for the families of members. Cunard Line 10 per cent reduction for members of the Congress only.

**Hotel Rates in Washington.**—Arlington Hotel from \$3.00 to \$3.50 per day. Rigg's House from \$3.00 to \$3.50 per day. Willard's Hotel from \$3.00 to \$3.50 per day. Metropolitan Hotel, \$3.00 per day. National Hotel, \$3.00 per day.

Other hotels conducted on European style, will furnish rooms at \$1.00 to \$2.00 a day. Good lodging-houses will also furnish rooms from \$1.00 to \$1.50 a day.

Proper accommodations have been secured for the meeting places of the Congress and its sections.

Transportation within the limits of the United States has not yet been determined upon, but will soon be made public. Particulars of the plan of entertainments will be published in the official programme, and all notices will be published in the *Journal of the American Medical Association*, in due time.

A. Y. P. GARNET, *Chairman.*

C. H. A. KLEINSCHMIDT, *Secretary.*

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## REVIEWS.

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*Illustrations of Unconscious Memory in Disease, including a Theory of Alteratives.* By CHARLES CREIGHTON, M.D. London: H. K. Lewis. 1886.

THE reception awarded to Dr. Creighton's address at the British Medical Association Meeting in 1883, fully justified a further venture in what we might term picturesque pathology. We hope the expression is not offensive, and we think it is justifiable. We can hardly speak otherwise of a pathology which prefers "the sagacious writings of a genera-

tion or two ago" to "the modern addiction to measurements and other kinds of pharisaical precision" (page 84). The sarcasm of a well turned sentence will scarcely forbid the resort to such precise methods of research while it may indicate the domain with which Dr. Creighton's book deals. That it is a charming and fascinating book, no impartial reader will deny. That it is profound in its information, and wide in its research is equally incontrovertible, even if we admit that it derives as much of its light from the comet of Darwin as from the sun of science. The "pharisaical precision" of the germ theory is especially the subject of ceaseless attack. "To refer it" (argue) "to a bacillus, or to any kind of poison at all, is not only a solecism of reasoning but a ludicrous error in the elementary sense of proportion" (page 86). Similar contention and resistance are offered to the acceptance of a germ theory as a causative influence in other diseases. The author of the theory of Unconscious Memory could not admit the influence of bacilli; neither, if we remember rightly, did he, in his former address, require it to trace the origin of small-pox from a simple non-contagious skin affection. These matters we mention by way of preliminary, and to indicate upon what points our adhesion to the views of the writer fails us. It is a simple corollary that we dissent in whole from his reasoning so far as it concerns infectious diseases or disease which we assume has a constant relation to the presence of a micro-organism capable of separation, cultivation, or inoculation.

Unconscious memory, habit, automatism, facility of repetition, or any other term which we please to employ, does undoubtedly obtain, and exerts a measurable or immeasurable influence over our bodily processes. The fact is not a recent discovery, even if Dr. Creighton has given it a very appropriate name. In a limited sense, we have long spoken of it as heredity, and in reference to heterologous growths and infections it has weighed over us as only a widely recognised natural law could. Pathologists have shown us that this law in heterologous growths is borrowed from or identical with the laws of growth and reproduction in normal structures. In other words, that "granulation gone wrong" (or any other morbid process) retains as its portion of right, conformity to type and tendency in its generated results. It thus claims for itself the position of the most persistent—that is, the ascendant law. This conclusion places us in advance of Dr. Creighton's proposed subject, which is the illustration of unconscious memory in disease and a theory of alteratives.

We accept the term unconscious memory more because it is convenient than because it is accurate. Selecting generation to exemplify his meaning, the author says (page 15), "generation is implicit memory, consciousness is explicit memory; generation is potential memory, consciousness is actual memory." We scarcely realise at first sight that this potential memory has the force of law, yet, as we have already said, it represents one of the most persistent laws with which we are acquainted. Whether we follow the argument in such a physiological process as lactation or accept the parallelism between the corpus luteum and the decidua; whether we examine the formation of new tissue, new blood, pus, or a tumour, we find evidences of a law which Dr. Creighton calls embryonic memory.

The material congregated is excellent, the arrangement for teaching purposes unexceptionable, but the conclusion must be the existence of a natural law—an evidence of design.

If our criticism is justifiable, the transition from organic memory to morbid habit becomes less easy, or more recondite, than appears in the argument. There is still much unknown ground lying between us and the certainty that function, even automatic function, necessitates structural changes which would be expressed as potential memory in the process of histological generation. Yet there is more than a suspicion that even conscious memory effects structural changes in the brain matter. Habit or automatism is less persistent than the laws which govern the generation of like from like. The detail of the argument supports our contention, for the success of alterative or habit breaking treatment is demonstrated in chronic catarrh, habit cough, certain skin diseases, and neuralgias, while only a hope of future success is held out in tumourous growths in which the law of generation has gained a footing. Moreover, the alteratives are largely nerve tonics and affect function, rather than growth. For though function is affected through growth, it may also be affected with a rapidity with which growth and reproduction cannot keep pace.

We are at one with Dr. Creighton in his theory of alteratives as habit breakers, but differ from him in the limitation which is too frequently and perhaps unconsciously implied in his reference to the individual drugs. Quinine for instance, may be an alterative in neuralgia and a germ poison in ague. It is not logical to assert of two periodic diseases, that because quinine cures both, and one is not known to be associated with a bacillus, that the drug has no germicide effect on the bacillus

with which the other is constantly associated. Neither is it logical to assert that the periodicity of ague is independent of the power of its bacillus. It is not impossible that during the height of the fever in ague, a germicide is produced in the blood itself, which renders the individual paroxysm what Dr. Bigelow would call self-limited. If we add to this natural effort, which unaided will attain so great a result, the further germicide action of quinine, the "ludicrous error in the elementary sense of proportion" is reduced to a minimum.

Some similar contention might be urged with regard to whooping-cough, and what Moxon called the long drawn out fever of syphilis. In both cases nature attempts, and sometimes perfects, a cure. Possibly even the asphyxia of whooping-cough generates a germicide, and certainly the inhalation of terebene markedly shortens the duration of the disease. In syphilis, mercury and iodine seem to obviate the need of long continued local inflammations, and to a marvellous extent prevent almost permanent imprints upon the processes of cell generation. In this latter respect we touch very nearly the province of morbid growths.

The chapter on morbid habits, summed up in diathesis, ought to have been splendid. Its devotion to the study of pellagra, leprosy, and beri beri, interesting enough in themselves, we regard as an opportunity lost.

There is a considerable hiatus between prolonged irritation, exalted or perverted function, and the memory of it, as Dr. Creighton would have us believe, in the existence of cancer as an acquired habit of the tissues. We can understand that cancer growth once started, should be maintained by the aid of organic memory (to use the author's term), but the origin of heterologous growth is still unexplained. It is not impossible that a bud of tissue similar to the "sporting" bud in plants, is the first step in the process; and as sports are more common in cultivated than in wild specimens, so may cancer be more common in conditions of exalted or perverted function heterologously.

laws of growths upon tubercle are somewhat strained. Except other words, this dismissal of the tubercle bacillus, to which (in morbid process) it, the tradition of "fat gone wrong" is a type and tendency in the direction of repair, or at least of itself the position instances. The infection so begotten during ant law. This con of a structure is not very far removed ton's proposed subclinical toxic substances produced during the memory in diseaseation of the tissues after death. In that

respect it differs widely from the infectiousness of such growths as cancer, or even from the infectiousness of the tubercle bacillus. A margin broad enough to admit some debatable ground must be maintained to separate these varieties of infection, and probably the main encroachments in the immediate future will be made from the side of the bacilli.

Again, as in his former address, Dr. Creighton opens up the subject of what he calls vicarious infection. His subject matter is full in its research and significance, and the author is masterly in his reticence of theory. The subject is recondite and difficult, but a probable solution seems to lie rather in the acceptance of a germ theory than in its repudiation. There is certainly an analogue of "vicarious" infection in the life history of the intestinal parasites which infest man and the lower animals. The transition to a similar life history in a bacillus, developed or undeveloped, according as it inhabits different races of men or animals, does not involve a very wild flight of imagination. It need only be granted that bacillary organisms play the part which they are supposed to do in zymotic disease. That race, food, surroundings, or ancestry may render a man's body hostile to the invasion or development of a parasite or a disease, may be a memory or tradition, but only as all history is a memory or tradition. The statement is rather a fact than an explanation, and we do not criticise Dr. Creighton's facts.

The theory of alteratives, which runs through the whole work, scarcely reaches a fuller meaning than the every day word by which it is expressed. Alterative measures, drugs or mechanical, set up or help up a healthy action. They may exalt normal function, or institute modifications, but the *vis medicatrix naturae* effects the cure.

We have carefully scrutinised Dr. Creighton's book, because we consider it to be one of the most interesting books of the year.

We regret the hostility shown to the acceptance of the germ theories in any form, less from a personal attachment to them, than from the limitation placed upon the field of the author's thought. We can ill afford to lose such an observer in our branch of science, and we hope some day to see him extend his research, not only in the direction of this book, but in others which we think worthy of a fuller consideration at his hands.

*Diseases of the Joints.* By HOWARD MARSH, F.R.C.S. With 64 Illustrations and a Coloured Plate. London: Cassell & Company, Limited. 1887.

THIS work forms the latest addition to Messrs. Cassell's series of Clinical Manuals. The subject on which it treats can be fully and effectively treated within the limits of such a manual, and Mr. Marsh from his position as Surgeon to the Hospital for Sick Children, and to the Alexandra Hospital for Hip Disease, has had the wide experience essential to one who would write with authority thereon.

After speaking of affections common to all joints, the author discusses such interesting topics as "Charcot's Disease," "Epiphysitis," "Quiet Disease," "The Joints in Hæmophilia," "The Formation of Cysts in connection with Joints," "Loose Bodies in Joints," and gives well written and thoughtful chapters on "Bone Setting," "On the Prejudicial Effects of Intra-Articular Pressure; and on the Danger of Producing it by Surgical Appliances," and on "Nervous Mimicry and Hysteria." Finally, he describes the affections of the individual joints—the chapters on Hip Disease occupying fifty-five closely printed pages—and devotes a special chapter to "Excisions of Joints."

We naturally turn with much interest to the description of Charcot's Disease, as being an affection on which we desire more light than we have hitherto received. Mr. Marsh does not feel justified in merely naming the special form of joint disease to which this title should be limited. He places before his reader the full reports of four cases, observed and recorded by several of the members of the staff of St. Bartholomew's Hospital. He points out that although in these the nervous symptoms vary very greatly, the joint symptoms are more consistent, and "so closely resemble those of osteo-arthritis that many observers maintain that they are one and the same disease." He acknowledges that he has seen a case indistinguishable from Charcot's Disease, but in which no symptom whatever of ataxia was present; he adds, "My own opinion is that this patient will sooner or later become ataxic." As to the connection between the nerve lesion and the joint affection he very sensibly sums up in the following words:—"There appears ground for holding that osteo-arthritis and Charcot's Disease may be so far related to each other, that they both belong to a group, recently brought to light, in which profound changes in nutrition appear to be directly dependent on lesions of the nervous system. I allude

to the atrophied and shining condition of the skin, and the ankylosis, often bony, of the finger joints, which frequently occurs after injury to the nerves of the forearm; the ulceration and tedious skin diseases observed in the limbs of hemiplegic subjects; and most important of all, the 'perforating ulcer' which is so commonly found about the foot, in cases of ataxia."

The most remarkable feature in the book is the very decidedly adverse opinion which Mr. Marsh expresses with regard to excision of joints. The elbow is the only joint which, according to his experience, gives a better result by excision than by expectant treatment. Of excision of the knee he speaks in rather a lukewarm manner, and limits it in his practice to cases where irremediable displacement has occurred. The following extracts give his views as to the other joints—"The Shoulder.—Excision of the shoulder is very rarely required or performed for scrofulous disease. . . I do not remember having ever seen this joint excised for scrofulous disease in childhood." "The Wrist.—Excision of the wrist for scrofulous disease is seldom required. . . I have, it is true, seen a few excellent results after complete excision of the wrist; but these have been far outnumbered by instances, in which, though after a very prolonged period sound healing had been secured, the hand was entirely useless." "The Hip.—I have already alluded to the general question of excision of the hip joint, and have adopted an adverse view respecting the operation." "The Ankle.—This operation takes about the same rank as excision of the wrist. . . It is but seldom performed, and when it is performed the result is usually unsatisfactory." These generalisations are very sweeping, and undoubtedly rather over-shot the mark. It is not unnatural that there should be a recoil from the views of Fergusson and his followers, under whose influence excision came to be regarded as the only sound treatment, but we cannot boast that conservative surgery of the joints has even yet so far advanced that it is always possible to save a useful limb without operation. Most of our hospital patients are in such a position in life that a complete rest for two or three years (the essential condition for the cure of a case of hip joint disease), is out of the question, and for many such the choice is still, as it was in Fergusson's time, between excision and amputation. It is remarkable that while excision of the hip joint is becoming less common among the London surgeons, amputation at the hip is becoming more frequent, and has, in recent years,

been attended by a considerable degree of success. In Scotland it has been seldom done, and in Glasgow notwithstanding the prevalence of hip-disease it is a very rare operation.

Mr. Marsh is severe on the "bone-setters." He gives a graphic description of their policy and practices. "Some are blacksmiths on the Cumberland hills, or shepherds in the sequestered valleys of Wales. . . . At the other end of the scale are operators of a less unsophisticated stamp. Residing in large towns, and thought, without unwillingness on their part, by many of the public to be qualified surgeons, they equip themselves with the names of the principal bones and muscles, and with a few picturesque medical phrases, they procure a skeleton on which they undertake to show patients the precise nature of their complaints; they employ anæsthetics freely, and make full use of daily passive movements, rubbing and shampooing; they apply instruments, and in spinal cases they put on Sayre's plaster-of-Paris jacket." He gives some striking examples of the serious mistakes these unqualified practitioners make, from which we select the two following. "A man aged 32, was sent to St. Bartholemew's Hospital for an opinion about his shoulder. I found a large sarcoma of the upper end of the humerus. The patient had been told by a bone-setter, under whose treatment he had been for two months, that his shoulder was out and could be put in as soon as the swelling was reduced by the lotions that were being applied." "In a case of far advanced angular curvature of the spine in a little girl, the 'buttons of the back' were said to be 'out'; the spine was straightened to put the buttons in, and the patient died a fortnight afterwards."

The treatment of joint-disease as described by Mr. Marsh presents no novelty, and nothing calling for any special comment. Complete fixation, attention to the general health, and the exercise of an inexhaustible fund of patience seem to be his main dependence. We are encouraged by his invariable reference to the long time which joints take to recover, having had occasion again and again to deplore the little progress which our cases make; in this we find, however, that we are no worse than so experienced a surgeon as the author of this book. Strumous disease of the elbow, if seen in the earliest stage, may be cured, he thinks, by complete fixation for from *six to nine months*; disease of the wrist from *six to twelve months*; and *morbus coxae* from *eighteen months to three years*. Disease of the knee joint he is more

hopeful of, and states that he has seen cases where the child had been lame for three or four weeks, recover perfectly, with fixation by means of splints for *four to six months*. But even this period is much longer than we can allow to our patients in a General Hospital.

The book is carefully written, and, if rather devoid of novelty, is for the most part thoroughly sound in the principles it inculcates. It is, moreover, a very complete monograph on one of the most important branches of surgery.

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*Anatomy, Descriptive and Surgical.* By HENRY GRAY, F.R.S. Eleventh Edition. Edited by T. PICKERING PICK, Surgeon to St. George's Hospital, &c. London: Longmans, Green & Co. 1887.

GRAY'S Anatomy having long been a favourite with students, and the successive editions having received some notice in these pages from time to time, as they appeared, it only remains for us, in noticing the eleventh edition, to refer to notable changes in the text, and to point out errors which have crept in and escaped the attention of a watchful editor. The most striking change consists in the introduction of colour into a very large proportion of the woodcuts, the arteries being coloured red, the veins blue, and the nerves yellow. We feel ourselves in some degree responsible for starting the race after colour apparent in competing anatomical text-books, having introduced colours into the plates of the bones in Wilson's *Anatomist's Vade-Mecum*. The fashion thus set was followed in the last edition of Quain's *Anatomy*, but, instead of the muscular markings on the bones being coloured, it was the arteries and veins, while Mr. Pick, thus encouraged, has gone a step further and has coloured the muscular markings, arteries, veins, and nerves. Although the colours are a little too bright (the yellow especially being of startling brilliance), they have been admirably put on, and even where the branches are very small and numerous seldom pass beyond their proper lines; indeed, we have seldom seen colour printing from wood blocks so effectively and satisfactorily done.

We have long held that the most serious defect in Gray was the description of the brain and spinal cord, and we are sorry that in this respect the present edition shows little advance on its predecessors. More especially defective are the diagrams illustrating this most important field of anatomy. For years past figure 385 has represented the temporo-sphenoidal lobe

of the brain as the parietal lobe, the lingual lobule as the temporo-sphenoidal lobe, and the termination of the hippocampal fissure as the posterior division of the fissure of Sylvius: errors which would suffice to settle the fate of the unfortunate student who placed implicit faith in this book. No transverse vertical section of the brain is given to show the nuclei of the corpus striatum with the inner and outer capsule, figure 388 from Hirschfeld being a view of a section made through the corpora quadrigemina, and therefore too far back to show the corpus striatum; as a knowledge of the nuclei of this structure is important, and we find a difficulty in getting students to understand them, the omission is to be regretted. But the sins of omission in this section are not confined to the woodcuts, they extend to the letterpress. A careful search through both index and text satisfies us that there is a complete omission of a description of the minute distribution of the arteries to the cortex and basal ganglia of the brain; while the general description given under the head of the internal carotid artery is bald and incorrect. Another notable omission is the absence of any mention of the position of the motor convolutions in relation to the external surface of the cranium, a subject now receiving much attention, and (if cerebral surgery is to advance at all) one on which anatomical text-books should not be silent.

In the dissection of the orbit, the editor still retains the description of the old method of inflating the eyeball by puncturing the optic nerve and pushing the blow-pipe through the puncture into the eyeball. As this is done at the commencement of the dissection, the structures in the orbit are displaced, and some of them destroyed, while the inflation is imperfectly performed. Hensman's method of inflating by means of a valvular opening through the cornea, has the advantage of not disturbing the contents of the orbit; it is easily accomplished, no ligature is required, and if the air escapes, re-inflation can be done as often as may be required through the same opening.

In the section on the muscles, the actions of each muscle are clearly and briefly given without any unnecessary elaboration. We think, however, it should have been more definitely stated that the supinator longus is much more powerful as a flexor than as a supinator. J. S. Wight\* calculates that if the sectional area of the supinator were as great as that of the biceps, the former would have three times the flexor power of the latter, so great is the mechanical gain by its leverage.

\* *Principles of Myodynamics*, p. 76.

We note, also, the omission of any description of the mechanism of raising the arm at the shoulder, especially in regard to the rotation of the scapula, and would commend to the attention of the editor the observations of Mr. C. W. Cathcart and Prof. Cleland on this matter.

Fig. 437, representing an antero-posterior vertical section of the eyeball, shows the iris as standing well in front of the lens, and separated from it by a considerable "posterior chamber." This is, of course, wrong, and is corrected in the text, where it is very correctly stated that "it is now known that the posterior surface of the iris is in immediate contact with the lens throughout greater part of its extent." It would be well if the diagram were made to correspond with the letterpress.

We have, so far, spoken entirely of errors and defects; but it must not be supposed that we have a low estimate of the book as a whole. It is because we believe it to be an excellent text-book for students, and its general accuracy unimpeachable, that we have thought it right to point out defects which may be easily corrected in the next edition, and which at present not a little impair its usefulness.

While Mr. Pick shows a laudable desire to present to his readers the latest ideas, especially in regard to histological particulars, he does not show any tendency to make changes merely for the sake of novelty. Thus, he declines to accept the change of name of one of the bones of the carpus from "cuneiform" to "pyramidal," and does not acknowledge the posterior scapular artery as a branch of the third part of the subclavian artery, although both these changes are approved by Mr. G. D. Thane. Again, we notice that he still sticks to the form "condyloid" instead of "condylar," and "atlo-axoid" instead of "atlanto-axial," and prefers "atollens aurem" to "attollens auriculam." These changes were introduced into Quain's *Anatomy* some years ago, and there is much to be said in their favour.

We are pleased that, in both editions produced under the present editor's supervision, several diagrams, which were introduced during the editorship of Mr. Timothy Holmes, have been struck out. Those we refer to were a discredit alike to the draughtsman, engraver, and anatomist, and did not a little to condemn the book in the eyes of thoughtful and influential teachers.

We cannot close our notice without congratulating Mr. Pick on the evidences, on almost every page, of editorial revision, and on the remarkable freedom from typographical errors.—H. E. C.

*A Treatise on Diseases of the Skin, with special reference to their Diagnosis and Treatment, including an Analysis of 11,000 Consecutive Cases.* By T. M'CALL ANDERSON, M.D., Professor of Clinical Medicine in the University of Glasgow. London : Charles Griffin & Co. 1887.

FOR a number of years we have been dependent on our American cousins, or on translations from Continental writers, for any comprehensive work on Skin Diseases. The treatises of Sir Erasmus Wilson and Dr. Tilbury Fox are in most respects quite out of date, and the admirable handbook of Liveing, or the manual of Malcolm Morris are, from their size, incomplete. When, therefore, Professor M'Call Anderson, whose name has been known for more than a quarter of a century in connection with cutaneous diseases, and who must have met with as many examples of these as probably any living physician in the kingdom, appears as the author of the handsome volume before us, we are justified in expecting something of lasting value. Nor has a careful perusal resulted in aught else than in confirming our anticipations.

In the first place, the plan of the book is a good one. While Dr. Anderson has himself prepared the chapters dealing with those diseases with which he is more or less familiar, he has enlisted the services of several collaborateurs fully capable of preparing descriptions of complaints of which his knowledge must necessarily be second-hand, or which are more purely surgical. Thus, Dr. William MacEwen has aided him in the article on Ulcers. Dr. Hector Cameron is responsible for those on Anthrax, Pustula Maligna, Nævus, Dermatitis Calorica, and Epithelioma. Dr. James Christie, whose foreign experience enables him to speak with authority, handles in a thoroughly satisfactory manner the sections on Delhi Boil, Parangi, Donda Ndugu, Elephantiasis Arabum, Lymph Scrotum, Framboesia, Leprosy, Ainhum, Madura Foot, Pellagra, and Guinea Worm Disease. It is designed to be not less valuable to those whose practice lies among the residents of warmer climes, than it is calculated to be to the medical practitioner whose range is limited to a driving or riding distance at home. Three-fourths are from the pen of Dr. Anderson himself, and if at times we would have preferred to listen to his own language rather than to a quotation from the writings of others, yet it must be admitted that these are always well selected, and fully convey the impression which is intended.

Where there is so much to praise, little opportunity is left for criticism, yet there are a few points which have struck

us as not completely satisfactory. Thus, the chapter on Erythema is too short, and no allusion is made to the group of diseases described under the generic name of Hydroa by Bazin, and now regarded as allied to, if not identical with, Erythema Multiforme. Peliosis rheumatica is classed under the head of Purpura, but the opinion of Hutchinson that it is probably closely related to the polymorphic erythema, and which is in all likelihood the correct one, receives no attention. Psoriasis is very fully and systematically gone over, but the term Lepra, as applied to a variety, should have been left out, as it tends to confusion, and under the etiology there ought to have been some notice taken of the ingenious parasitic theory of Lang. Tinea versicolor is said never to occur on the face. This is generally, but not absolutely true. Biart has recorded an instance in which, while the disease was found in its usual situations on the trunk, patches, in the scales from which the characteristic parasite was present, occupied the forehead and cheek. Neither Sarcoma of the Skin nor Sycosis finds a place. None of the above can be considered serious faults. To our mind, the only part of the volume which falls distinctly short of the relatively high standard attained by the rest is that devoted to the treatment of Eczema. This was published by Dr. Anderson in the *Journal of Cutaneous Disease* for 1883, and has been reprinted unaltered. The advances made in the management of eczema have been of late quite remarkable, and many modes of satisfactorily coping with it have been perfected or introduced within the last four years, while several new and valuable remedies have been discovered. This oversight will no doubt be corrected in a second edition, which will, we hope, soon be necessary; but, in the meantime, it lessens materially the value of that section. It must not be supposed, however, that the measures recommended are not in themselves suitable—only that there are in some of the forms of eczema better and more elegant methods now at our disposal. We are strongly tempted to quote a paragraph from the article on Burns and Scalds by Dr. Cameron, in which, on page 300, he directs attention to some causes for which either nurses or medical practitioners are frequently more or less responsible, but as we trust that all our readers will lose no time in purchasing a copy of the book for themselves, we will do no more at present than recommend them to lay well to heart the suggestions there made.

The treatise is one which does much credit to the Glasgow Medical School, and will undoubtedly enhance the reputation of Dr. M'Call Anderson and his fellow-workers.

I. *A Practical Treatise on the Sputum, with special reference to the Diagnosis, Prognosis, and Therapeusis of Diseases of the Throat and Lungs.* By G. HUNTER MACKENZIE, M.D. Edinburgh: W. & A. K. Johnston. 1886.

II. *Sputum: its Microscopy and Diagnostic and Prognostic Significations.* Illustrated with numerous Photo-Micrographic Plates and Chromo-Lithographs. By FRANCIS TROUP, M.D. St. And. Edinburgh: Oliver & Boyd. 1886.

THE importance, which now attaches to a careful macroscopic and microscopic examination of the sputum in the investigation and study of diseases of the respiratory tract, is made abundantly evident by the appearance, in the same year, of these two comparatively exhaustive works on the subject. Than the two books before us we could have no more convincing proof of the enormous strides which the scientific study of medicine has made in recent years, and, we would almost say, of the total inability of any one man at the present day to be thoroughly accomplished in all the departments of the healing art. Specialism, or better, perhaps specialisation, is in the air, and it behoves us to pause occasionally and consider well whether, with all our specialties, we are better physicians and surgeons or keener observers of the general phenomena of disease than were our fathers. Not that we fail to recognise the value of specialism and the good work it has done, but we fear that the undue importance which seems to attach to the specialist now-a-days may have a deleterious effect on the training of our young men and on the general practising part of the profession. In all large towns it is the custom for young men beginning practice to have a specialty—aye, and to lecture on it, too—when, as regards the great general principles of the medical art they are still in the rudiments, a circumstance which seems rather like putting the cart before the horse. Again, with the spread of specialism, there is the danger of a part of a subject coming to be regarded as of equal importance with the whole, a reflection which has been suggested by the two volumes at present under our notice. We by no means wish to undervalue the great importance of a careful examination of the sputum, but we think that the appearance of two considerable volumes is apt to convey to the mind of the general reader an exaggerated idea of that importance, and may possibly have the effect, in some instances, of causing a neglect of other phenomena, which are at least of equal, it may be, of greater signifi-

cance. But having pronounced a note of warning with regard to the general subject, it remains for us to say that both authors have performed their tasks well, and have contributed to this department of medicine a record of work which is likely to be of lasting value.

Dr. Hunter Mackenzie's book, the smaller and less pretentious of the two, is most interesting and readable. After a general introductory chapter, the different diseases of the respiratory organs are taken up in detail, and the characteristics of the sputum of each are most minutely and accurately described. His speculations as to the diagnostic and prognostic significance of the tubercle bacillus in sputum are logical and convincing, and by no means the least important part of the volume is that dealing with the therapeutic indications afforded by an examination of the expectoration. A series of illustrations adds to the clearness of the text, and the conclusions of the author are supported by a long list of illustrative cases.

Dr. Troup's book is really a work of art as well as a scientific treatise on the microscopy of the expectoration, and will be of the greatest value to the practitioner. The amount of patient labour involved in the production of the illustrations has been exceedingly great, and the author is to be cordially congratulated on the success which has attended his efforts. The work, we imagine, will long continue a standard atlas on the microscopic appearances of the expectoration. The illustrations consist of a series of six chromo-lithographs, representing most accurately and beautifully the bacterial elements met with in morbid sputa, and of twenty-six photogravure plates showing the other formed elements. Chapters I and II of the text deal with the methods employed and the general characters of the expectoration, after which the different forms of morbid sputum are described in detail, the different methods of demonstration being also fully expounded. Altogether, the volume is likely to be a most serviceable one, and the publishers, as well as the author, are to be congratulated upon its appearance.

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*Diseases of the Ear and their Treatment.* By ARTHUR HARTMANN, M.D. Translated from the Third German Edition by JAMES ERSKINE, M.A., M.B. Young J. Pentland, Edinburgh. 1887.

HARTMANN'S work is perhaps one of the most popular German text-books on Otology. It is short, practical, and, in the main

accurate. Coming, as it does, from the pen of one of the author's scientific attainments, we need hardly say that it is well up to date, and being written by a German, it is almost unnecessary to add that it takes little account of the views of foreign authorities. Perhaps, in the main, this is hardly a just ground of complaint, for there can be no doubt that more work is at present being done to advance aural surgery in Germany than elsewhere. When we come to discuss the matter in detail, however—especially with reference to the work before us—we find that our author might, with advantage, have paid more attention to Anglo-Saxon literature. Thus, in discussing "Syphilis of the Labyrinth," references are certainly made to the views of Hinton and Hutchinson, but we find no allusion to Roosa who, so far as we are aware, was the first to indicate the clinical significance of what he has termed syphilitic cochlitis. Of course, it is only natural that our author should be more conversant with the literature of his own country than with that of other lands; but we think that in writing a text-book the highest aim of the teacher should be to lay before his readers all that is best in the literature of his subject, no matter whether the source be French or German, European or American.

We do not think it necessary here to give an account of the contents of the book. Suffice it to say that the rules for diagnosis and treatment are, on the whole, sound and carefully expressed.

We notice with pleasure that the author does not advocate indiscriminate incision of the membrana tympani in all cases of acute inflammation of the middle ear. "Paracentesis of the membrana tympani," he writes, "recommended by some authors for all cases of acute disease of the tympanic cavity, is unnecessary in the slighter affections—in simple catarrh and where there is only a moderate degree of pain."

In discussing the treatment of the apoplectiform variety of Menière's disease, Hartmann states that Charcot recommends considerable doses of quinine, and gives no criticism on this method of treatment. It has always seemed to us that this is a dangerous practice. We doubt much whether the ear symptoms produced by quinine are due to hyperæmia of the labyrinth, but this is the view held by Hartmann (p. 213), and we fail to see consistency in his unqualified reference to Charcot's plan of treatment. It is not improbable that quinine in repeated large doses may sometimes produce deafness, and aurists ought to think twice before they administer this drug to a patient who is already incurably deaf in one ear,

on the advice of a physician who, however celebrated, is not a specialist on ear diseases.

While making these criticisms, we cannot refrain from again stating that the work before us is, on the whole, a very excellent text-book; at the same time, there are several English and American works which are quite as good and quite as safe guides for practitioners and students to follow. On the whole, therefore, we fail to see that the book before us fills any gap or supplies a want.

As to the translation, we cannot speak altogether favourably. It is hardly to be expected from a translator that he should produce classical English; but such a passage as the following might easily be improved upon:—"which were only separated from the external meatus by an osseous layer as thin as paper of the otherwise sclerosed bone." In several places the translation has not even the advantage of being accurate; in some instances the result is that the meaning is quite obscured. To give one example, on p. 241 we read, in the English edition, "The proportion is lowest in the Netherlands, being 3·35. In Belgium it is almost as low as 4·39." Whereas the correct translation would be—"The proportion is lowest in the Netherlands, being 3·35, and almost as low in Belgium, where it is 4·39." Similar inaccuracies we have encountered in other parts of the work. With these minor imperfections, which will no doubt be corrected in case a second edition is called for, we are in a position to welcome this work in its English dress, and to claim for it a place in the library of all students of otology.

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*History of the Royal College of Surgeons in Ireland, and of the Irish Schools of Medicine, including numerous Biographical Sketches, also a Medical Bibliography.* By SIR CHARLES A. CAMERON, President of the Royal College of Surgeons in Ireland. Dublin: Fannin & Co. 1886.

THIS is a large and very handsome volume, and forms an important and very valuable contribution to the History of Medicine and the Medical Schools in Ireland. The amount of labour involved in preparing such a work must have been enormous, and the author is to be cordially congratulated on its successful completion. The volume begins with an interesting and readable account of the progress of medical knowledge and literature in Ireland, from the earliest times up to the year 1700. Then follows an account of Irish medical

bibliography during the eighteenth century, and of the barber surgeons. Next comes a full history of the Royal College of Surgeons from the period of its incorporation till the present time. The provincial and other schools of medicine in Ireland also find a place in the book, and by no means the least interesting and attractive part of the volume is that which gives us biographical sketches of the Presidents of the Royal College, and other Irish medical teachers. Among these sketches we are pleased to observe that of a recent distinguished Glasgow graduate, Mr. Alexander Fraser, M.B., who now fills the office of Professor of Anatomy in the Royal College of Surgeons, and who formerly acted as a demonstrator in our own university under Professor Allen Thomson. Altogether the History is, as we have said, most valuable and interesting, and the profession, not only of Ireland but of Great Britain, must feel grateful to Sir Charles A. Cameron for the enormous labour he has undertaken on its behalf, and for the perseverance with which he has so successfully carried it out. The value of the volume is futher enhanced by the presence of a very full and accurate index, compiled by Mr. William Edward Ellis, LL.B., which greatly facilitates reference to its pages.

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*Gout and its Relations to Diseases of the Liver and Kidneys.*

By ROBSON ROOSE, M.D. Third Edition. London: H. K. Lewis. 1887.

WE have had much pleasure in perusing this book, and again we cordially recommend it to the notice of our readers. In our somewhat lengthy notice of the first edition, we gave a general outline of the views of the author, who regards functional derangement of the liver as the primary cause of the gouty dyscrasia. Going through a work of this kind, reminds one occasionally of a cram-book on medicine, for really in considering such a disease as gout one must bring under review almost every disease that flesh is heir to. Gout after all (excepting perhaps the acute attack) is not so much a disease *per se* as a constitutional state which is induced by certain well known habits of life, which modifies by its presence any special disease attacking the gouty patient, and which must always be considered in the treatment of the case. The chapter on treatment is very good, and well worthy the perusal of all, but its value would have been very greatly increased, we think, had the author seen fit to include in it one or two of the printed diet forms with which he is in the

habit of supplying his patients. The formation of a set of dietary rules is often a matter of some difficulty, and any help in this matter would be cordially welcomed by the profession at large, so that we hope in a future edition the author may see his way to take our hint. The author's style is clear and pleasing, and no medical man will regret adding this volume to his library.

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*Traité Élémentaire d'Anatomie Médicale du Système Nerveux.*

Par. CH. FÉRÉ. Paris. 1886.

PROMPTED by the services which the teaching of surgical anatomy has rendered to the practical surgeon, M. Féré has endeavoured, in the volume before us, to render similar services to the physician. The work is essentially a text-book, and presents us with a comprehensive review of our present knowledge of the anatomy of the nervous system in its relations to pathology and practical medicine, and the author claims for it that it has, at least, the merit of being the first of its kind. It is impossible, in the space allotted to us, to do more than draw attention to the general excellence of this work. The sections on the Convolutions of the Brain, and on the Localisation of Function in the Cortical Centres are of special value, while the practical character of the work is well illustrated in the pages devoted to the description of the cranial nerves. The book is well printed and provided with a copious index, but its value as a text-book for students would have been greatly enhanced by better illustrations. Many of the plates are very indistinct, and this defect is all the more noticeable in a volume issued from the French press.

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*A Practical Treatise on the Cure of Pulmonary Consumption, with Medicinal, Dietetic, and Hygienic Remedies.* By JAMES WEAVER, M.D. London: J. & A. Churchill. 1887.

FROM a work whose title bore that it dealt with the cure of pulmonary consumption we expected 'a good deal, but we were disappointed. We found that the author's ideas of the pathology of phthisis, and of the origin and nature of tubercle were of the crudest and vaguest description, and that his dietetic and hygienic remedies were simply the ordinary common sense rules regarding food, cod liver oil, change of air, sea voyages, &c., which would at once recommend themselves to every intelligent practitioner. The drugs which he confidently states will cure consumption are iodide of potas-

sium, morphia, iron, and quinine, but it would take more evidence than the author brings forward, and a much longer list of more carefully and accurately recorded cases to convince us that his method is worthy of the confidence in which he himself holds it. The rules given in the book are sound and common sense enough, but that they are sufficient for the unfailing cure of consumption, as the author would have us believe, we very much doubt.

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*The Medical Annual and Practitioner's Index: a work of reference for Medical Practitioners.* Edited by PERCY WILDE, M.D. Bristol: John Wright & Co. 1887.

WE have again much pleasure in drawing the attention of our readers to this exceedingly useful volume. It contains all the information on the recent advances in medicine and surgery that the general practitioner is likely to require, and we feel confident that no one will regret placing it on his study table —on the contrary, we are sure that the busy medical man will find it a most efficient and reliable work of reference.

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*The Treatment of Some of the Forms of Valvular Disease of the Heart.* By ARTHUR ERNEST SANSOM, M.D. Lond. Second edition. London: J. & A. Churchill. 1886.

WE have great pleasure in drawing our readers' attention to the appearance of a second edition of Dr. Sansom's Lettsomian Lectures for 1883. The little volume is considerably increased in size, and its value is much enhanced by a table of contents and an index, which were absent in the first edition. The volume is brought thoroughly up to date, and is well worthy a perusal by all practitioners of medicine.

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*The Medical Digest, or Busy Practitioner's Vade-Mecum, being a means of readily acquiring Information upon the Principal Contributions to Medical Science during the last Thirty-five Years.* By RICHARD NEALE, M.D. Lond. Second edition. London: Ledger, Smith, & Co. 1882 and 1886.

THIS work is now so well known and so much appreciated by the profession that it is unnecessary for us to say more in commendation of its merits. We may say, however, for the information of our readers, that by means of an appendix to the present edition, the work has been brought up to the early part of 1886. It is a most valuable contribution to medical bibliography, and we wish it every success.

## MEETINGS OF SOCIETIES.

### MEDICO-CHIRURGICAL SOCIETY.

SESSION 1886-87.

MEETING VI.—21ST JANUARY, 1887.

Dr. MACLEOD, *President, in the Chair.*

I.—ON THE COMPARATIVE ANATOMY OF THE SEMINAL VESICLES, PROSTATE AND COWPER'S GLANDS, AND THEIR SUPPOSED FUNCTIONS.

By MR. JAMES CARTER. (See page 332.)

*Mr. Clark* said that he coincided generally with the views enunciated by Mr. Carter so far as he had heard the paper. The capacity of the vesiculae seminales in some animals indicated that they were not primarily mere receptacles of semen. He thought it most probable that the fluid secreted was added to complete the semen, and give it the proper bulk. The length of the urethral canal was also an element of importance in this consideration. In the human subject this fact had important surgical relations. Inflammation of the urethra sometimes came to be a very troublesome matter, as it in some cases extended to Cowper's glands, causing tenderness and pain behind the bulbous portion of the urethra.

*The President* adverted to a surgical case seen by him that day, in which Cowper's glands on one side were involved; and in the same connection he also made a remark on the nature of the affection in the case of a gentleman whose application for divorce had been recently a *cause célèbre* in London.

II.—REMOVAL OF THE LEFT KIDNEY FOR SCROFULOUS DISEASE.

By MR. HENRY E. CLARK. (See page 321.)

*Mr. Henry E. Clark* showed a patient from whom he had removed the left Kidney for Scrofulous Disease.

*Dr. Newman* said that tubercular disease of the kidney, as a primary affection, was very rare, in fact, almost unique, and especially so when its effects were, as in the present case, confined to the one organ, and affected no other part of the

urinary tract. The disease was very prone to spread either upwards or downwards in the urinary tract. He agreed with Mr. Clark that the diagnosis in the early stage was very difficult. In addition to the diagnostic points which he had indicated, there was another—viz., the detection of the tubercle bacillus, though the absence of this was, of course, not decisive. In the present case he could not find any bacilli. In such cases it would be essential to examine a large number of specimens. The present case illustrated very well the great value of catheterising the ureters in supposed cases of kidney disease. In catheterising in this case he introduced flexible catheters, for the reason that they could be pushed farther up, and, while the urine was drawn off with the small catheter, the bladder could be washed out by the holder. Dr. Gross's statistics, quoted by Mr. Clark, agreed in effect with those collected by himself. Up to the present time, of 27 cases of nephrectomy for tubercular disease, 16 had been by the lumbar and 11 by the abdominal method. Of the lumbar cases, 5 recovered and 11 died, being a mortality of 70 per cent. Of the abdominal cases, 9 recovered and 2 died, showing a very great difference between the results of the two operations. The only advantage he could see, from the surgical standpoint, in the abdominal operation, was that the operator got a view of the kidney of the opposite side; and the remarkable thing was that, while the abdominal operation appeared to be safer than the lumbar in these special cases, the contrary was true in regard to the two operations taken generally. The truth was, that as yet the figures were too small to allow them to found a safe induction on them. He agreed with Mr. Clark as to the difficulty of catheterising the male ureters. In a case in which it was of great importance to ascertain whether one kidney was healthy, he would incise directly into the bladder, and in a few days afterwards introduce a catheter.

*Dr. Macewen* said that he did not understand for what reason chromic gut was in this case discarded for silk ligature. Chromic gut he had found to answer admirably, if properly prepared. With regard to his own experience, he had in two cases completely removed the kidney, and in a number of cases he had made incisions. On one occasion he removed a ruptured kidney. In cases of scrofulous disease, it was a matter of first importance to ascertain whether the other kidney was involved: but as scrofulous disease existed in some parts without external evidence of its presence, this might be the case in the kidney—that is, in the stage prior

to the organ passing on to suppuration. Dr. Newman mentioned the rarity of scrofulous disease in a single kidney, and for this he (Dr. Macewen) could see no sufficient reason, judging from the analogy of other parts. In a single bone there might develop a single nucleus, while in no other spot would there be any indication of infection. Catheterising the ureters afforded a good means of diagnosis. In his own cases, he made a preliminary incision, with a view to the removal of the kidney, if this was found to be necessary. He agreed that the lumbar incision was, as a rule, better than the ventral; but if the body to be removed were too large for the lumbar operation, then the abdominal one should be had recourse to. In operating, he tried to isolate the kidney, by laying it upon some protective material, as the pus was apt to distribute itself and give rise to irritation.

*Mr. Clark*, in reply, said that, in regard to the abdominal operation, he was satisfied of the correctness of Dr. Macewen's view. In removing, say, a sarcoma, he would operate from the front; but, in cases like that under discussion, he would prefer the lumbar operation. In operating again he would prefer to ligature the ureter separately from the vessels. He agreed with Dr. Newman as to the necessity of seeking for the tubercle bacillus; but he did not mention the diagnostic method, the results in his case being negative.

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## PATHOLOGICAL AND CLINICAL SOCIETY.

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SESSION 1886-87.

MEETING III.—22ND NOVEMBER, 1886.

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*The President, DR. JAMES FINLAYSON, in the Chair.*

I.—SPLINTER OF A RIFLE BALL REMOVED FROM THE LEFT VENTRICLE OF THE LARYNX.

BY DR. DAVID NEWMAN.

I WAS asked by Dr. Alex. Patterson, in June last, to see this patient, who was admitted to Ward 14 in the Western Infirmary, on the 29th of May, suffering from pain in the region of the larynx, aphonia, and severe haemorrhage from the throat. The history of the case may be shortly stated as follows:—The patient was occupied as a marker at a rifle range, and while firing was going on at a distance of 500 or 600 yards, a ball

struck the edge of the target, and a splinter was thrown off, wounding him on the right side of the larynx, at a point corresponding to the crico-thyroid membrane. The wound was small in size, but was followed by considerable inflammation of the surrounding parts. The patient was first seen by Dr. Gilmour, of Duntocher, who sent him, on account of the severity of the haemorrhage, to the Western Infirmary, under Dr. Patterson's care. I saw him about ten days after admission, and at Dr. Patterson's request I attempted to make a laryngoscopic examination, but this I found, on account of the irritable condition of the fauces, to be impossible without the free use of cocaine. The first examination caused some haemorrhage from the larynx, so that I was compelled to desist from further interference. Three days afterwards I anaesthetised the larynx, and succeeded in getting a clear view of its interior. The mucous membrane was swollen and injected. On the right side I could not discover any further change, but on the left side, during a slight contraction of the parts, I observed a little dark body appearing, not larger than a split mustard seed. On passing a probe into the larynx, and finding this body firmly attached to the mucous membrane covering the left ventricle, I introduced Schröetter's laryngeal forceps, seized the body, and with a little force, succeeded in removing the piece of lead I now show you. It is flattened, and marked by the grooves of the forceps, and as now seen, measures about  $\frac{1}{4}$ th of an inch in length, and  $\frac{1}{8}$ th of an inch in breadth. It is somewhat triangular in form, and not thicker than a visiting card. After its removal I carefully examined it, and found that at one point it presented a metallic lustre, while, elsewhere, it was dark and dull. From this I concluded that the entire fragment had not been removed, but that a small portion still remained, impacted probably in the thyroid cartilage. Since the operation, the patient has completely recovered the use of his voice, and now the only thing he complains of is a slight clicking in the larynx when he performs certain movements.

II. DR. ROBERT PERRY showed a SPECIMEN OF BONE which had penetrated from the oesophagus into the lung, and had been coughed up.

III.—ENCEPHALOID CARCINOMA OF THE PROSTATE.

BY MR. A. E. MAYLARD.

The patient, a man aged 62, was admitted into the Western Infirmary, suffering from retention of urine, and

haemorrhage from the penis. There seemed to be some doubt as to the source of the bleeding, for the prepuce being phimosed, its actual escape from the urethra could not be definitely determined. He was apparently very ill, pale and weak, with a hurried respiration and a rapid and "thready" pulse. A No. 6 catheter was passed, and a quantity of urine drawn off. He was too ill to give any history of his illness, but from his wife it was ascertained that about six months ago he first commenced to have difficulty in passing his water with frequency of micturition. His symptoms began to be acute about a fortnight before admission, and within the last week he is said to have lost a good deal of blood. From the date of his admission till his death, three days later, he showed no signs of improvement but gradually became weaker and weaker.

The *post-mortem* revealed the following conditions:—The body generally was exceedingly well nourished, there being much subcutaneous adipose tissue and a very large quantity of fat in the omentum, mesentery, and around the kidneys. The heart was enlarged, the left ventricle being hypertrophied. The lungs were emphysematous and contained much frothy mucus in the tubes. The kidneys, removed from their extensive envelopment of perinephritic fat possessed slightly adherent capsules, and on section showed a want of differentiation between the pyramids and medullary substance. At the upper part of the right kidney was a tumour about the size of a large hazel nut, vascular in appearance, and when cut into found to consist almost entirely of blood clot. Here and there, however, were whitish particles which, on microscopical examination, revealed numerous large epithelial cells undergoing extensive fatty degeneration. The pelvis, calyces, and ureters of both organs were much dilated.

Before removing the pelvic organs, a No. 8 catheter was passed; some slight difficulty existed in entering the meatus, and on opening up the phimosed prepuce its under surface, together with the surface of the glans was found in a very sloughy condition, and the urethral orifice much contracted. Difficulty was again met with in passing the catheter through the prostatic portion of the urethra.

Continuing the examination of the organs, the bladder was found much enlarged and hypertrophied. At the fundus a cyst-like projection was seen sufficient in size to hold half of a large walnut. The prostate, while maintaining its natural shape externally, was only slightly enlarged. It was, however, hard, and the normal calibre of the canal lessened materially

through a slight bone-like projection from one lateral lobe. Both vesiculae seminales were enlarged and the right in addition possessed cyst-like cavities distended with a "muddy fluid."

Enlarged and hard lymphatic glands were found along both external iliacs at the brim of the pelvis, and one or two along the internal iliac artery.

With the exception of the tumour found in the kidney, the organs generally were free from anything of the nature of secondary growths.

A microscopical examination of the prostate showed it to be infected with carcinoma and the lymphatic glands almost entirely converted into masses of carcinoma cells.

(Sections of both prostate and lymphatic glands were shown.)

In his remarks upon the case, Mr. Maylard pointed out the comparative rarity of primary carcinoma of the prostate. In the microscopical sections first examined, the appearances suggested the scirrhouous form of carcinoma; the epithelial cells being separated by dense masses of fibrous tissue. It was, however, found on examination of other sections that these were simple extensions from a distinct centre into the normal prostatic tissue. The "centre" itself consisted of a dense collection of epithelial cells, separated by a very thin fibrous stroma forming alveoli. Thus, what at first suggested scirrhouous carcinoma proved to be really encephaloid. Mr. Maylard further stated that many authorities doubted the existence of scirrhouous carcinoma of the prostate; and, seeing the error into which he had nearly fallen himself, he was inclined to side with those who held that view. The structure of the prostate itself rendered it very difficult, without the most careful examination, to determine what was normal prostatic tissue, and what the stroma of new growth. He thought the manner of death interesting. While in most cases the disease ran its course in from 18 months to 4 years, in the present case the patient died only 6 months after the onset of the symptoms. Death was due solely to the comparatively acute obstruction of the prostatic urethra. Lastly, it was interesting to note that the only place where a secondary tumour was found was in the kidney.

Dr. Cameron said that the case was sent to him with reference to the question of epithelioma; there was a wart on the prepuce, and he had difficulty in urinating.

Dr. Macewen agreed that carcinoma in the prostate was infrequent. He had one case in which he was not sure

whether it was primary or secondary in the prostate. Quite recently he had a case where the patient was dying of cancer, and had some difficulty of urination; he could not make up his mind as to whether scirrhous was present or not. A London surgeon had said that such a condition was exceedingly rare. At the *post-mortem* it was found he had an affection of the prostate, with some secondary patches in the bladder.

*Mr. Maylard* said that the tumour of the kidney was undoubtedly carcinomatous—scirrhous was only a stage of carcinoma.

#### IV.—UNUSUAL FORM OF OSTITIS OF THE LOWER END OF THE FEMUR.

BY DR. H. C. CAMERON.

A specimen illustrating an unusual form of ostitis of the lower end of the femur was shown. The affection was in his experience rare, confusing at first as to diagnosis, and unsatisfactory as to treatment. He had met with only one other case like that from which the specimen exhibited was obtained. In both cases the disease was situated in the lower end of the femur, and abscess formed and left sinuses. There never was any sequestrum or exfoliation, however, in either, although there was great thickening and much constant pain. In both the disease lasted for years, and led to amputation ultimately. The patient from whom the specimen exhibited was obtained was a young woman, aged 30, who was admitted into the Western Infirmary in the end of 1885, complaining of aching, severe pain in the lower end of the left femur. There was considerable thickening, with a sinus just above the internal condyle. Through this a probe passed down to the neighbourhood of the bone, but could detect no sequestrum, although the case had all the appearance of one of necrosis, so common in this situation. The disease began when she was 19 years of age. She was dismissed in February, 1886, apparently not much changed either for better or worse. On the 5th of May she was readmitted in a very serious condition, indeed. The temperature on the night of her admission was 105·4°, and she was much emaciated, and suffered great pain in the limb, greatly aggravated on movement. The knee was full of pus, the abscess extending some way up the thigh. The leg and foot were swollen and oedematous. Evacuation of the abscess afforded little relief, and it was found that the joint was completely disorganised, and grated on movement.

Besides these grave local symptoms, she was suffering from a swollen and painful condition of many of the larger joints, especially the shoulders, elbows, and wrists. On the 22nd May amputation was performed. The femur was found to be greatly sclerosed, when the saw was applied, and to resist the progress of the saw. It was as hard and compact as ivory. In the thickened portion of the femur no sequestrum was found. There was, however, a central cavity, but no abscess. This cavity had no connection either with the knee-joint or directly with the sinus. Dr. Cameron said Mr. Maylard had made a very careful examination of the limb after its removal, and he would leave him to describe, at greater length, the appearances presented by the specimen. Dr. Cameron referred to a similar case in which he had amputated the limb, and which he treated along with Dr. Hodges, of Killin. The disease had existed for some years and was very painful. The case had been seen by an eminent Edinburgh surgeon more than a year previously. He had laid open the soft parts, following a sinus which existed, in the hope of finding a sequestrum, but without success. At a still earlier stage the symptoms had suggested the possibility of a malignant tumour being in course of development. After amputation it was found that no sequestrum was present, but merely great condensation and enlargement of the bone, with an extensive deposit of new bone over its surface. Dr. Cameron further read extracts from Holmes' *Surgical Treatment of Children's Diseases* in reference to such affections, in which, amongst other things, Mr. Holmes insists on the fact that "the enlargement is often thought due to the impaction of a sequestrum in the interior of the shaft; but this is by no means always (and I think is not usually) the case" (p. 402). In fact, Dr. Cameron maintained that the peculiarity of the class of cases to which he had drawn attention was that they often existed for years, the bone gradually but steadily enlarging, with much pain, and ultimately with the formation of pus in the soft parts around the bone. Amputation ultimately became necessary. Before suppuration occurred, the disease might be confused with malignant tumour, and often sinuses had formed with necrosis. This was all the more likely to occur, as all of these affections were prone to select the lower end of the femur for their manifestation.

## V.—DISEASE OF THE BONES OF THE ANKLE-JOINT.

BY PROFESSOR GEORGE BUCHANAN.

An amputated foot, with appearances somewhat resembling those of Dr. Cameron's case, was shown. The man had strained his foot twelve months ago, and there was swelling of the ankle over both malleoli, and somewhat towards the front. Dr. Buchanan had difficulty in deciding whether there was effusion into the ankle or into the sheaths of the tendons. There was absolutely no pain in the ankle-joint, but some a little above it. The patient was treated for this, and then came back with the swelling worse, and in addition, two ulcers. Amputation was then resorted to, and it was found that the disease was much more extensive than had been supposed. The lower ends of the tibia and fibula were perfectly sclerosed, and the periosteum was ossified. There was necrosed substance in the centre, around which the sclerosis occurred. The sequence of events is interesting. He thought Dr. Cameron's case was very like induration arising round an abscess. He had seen it often in the tibia.

*Mr. Maylard* contributed the following notes on the pathological conditions of Professor Buchanan's case:—

The specimen consists of the parts removed by Syme's amputation of the foot.

The portion of the tibia and fibula removed present the following appearances:—

The sawn surface of the tibia shows the central cancellous tissue to be in some parts condensed in texture, in others rarefied, the interstices of the latter containing soft gelatinous material. Outside the cancellous tissue appears the normal compact layer, irregularly encroached upon by the cancellous tissue internally, and by that beneath the periosteum externally. At one point posteriorly this layer appears entirely removed, and a connection is seen to exist between two areas containing the pulpy gelatinous tissue noticed in other parts of the bone. External to this compact layer is an extensive deposit of newly formed bone. It varies much in thickness, and in degree of condensation. At the anterior part of the bone it measures in one place slightly over a quarter of an inch, while at a spot corresponding to the groove for the flex. long. pollicis there is absence of any new deposit. At the anterior part, again, the condensation is more marked than elsewhere. The section of the fibula presents features much resembling those of the tibia, with the exception that the cancellous tissue shows no

signs of condensation, and the periosteal deposit is similarly less indurated.

The general external contour of the bones is very materially altered, and both malleoli are much enlarged. On the tibia there exist numerous nodular and stellactite-like processes of bone, and at these particular places the bone is hard, while elsewhere it is more spongy, and attempts at removal of the periosteum detach also layers of newly formed osseous tissue. The lowest part of the internal malleolus is bare, and slightly hollowed, the exposed bony surface being of the nature of vascular cancellous tissue. A somewhat similar bare surface exists at the anterior part of the bone, but the exposed cancellous tissue is less vascular and more condensed.

The fibula, while much enlarged and irregular in shape, does not present condensed periosteal deposits similar to those on the tibia, and its newly formed osseous tissue is easily detached or broken into on any attempt to strip the periosteum. On its anterior surface is seen intact a groove for one of the extensor tendons. It is noticed that the synovial membrane which lines it is pulpy in character, and at two places in the canal are circular pits leading to bare, bony surfaces.

The articular surfaces, so far as the cartilages are concerned, are healthy. The periosteal deposit extends to their margin. The synovial membrane, on the other hand, is converted everywhere into pulpy granulation tissue, and only at the margins of the articular cartilages does it encroach upon the articular surfaces. Here, however, it is easily removed, and does not appear to have in any way eaten into or undermined the parts with which it simply lay in contact. The pulpy tissue exists in considerable quantity between the external malleolus and the tibia, and passes upwards also for some distance between the two bones. An examination of the fragments of tissue gouged from the centre of the tibia at the time of operation (the diaphyseal surface) shows them to consist of pieces of necrosed cancellous tissue, containing in their interspaces yellowish creamy collections of what the microscope shows to be fat globules and fatty debris.

The foot shows the following conditions:—

The articular surface of the astragalus, like that of the tibia, appears normal. The synovial membrane is enormously pulpified, being in front fully an inch in thickness; the tendons, with their synovial sheaths, exist in front of this thickened pulpy membrane, and are unaffected. Not so, however, the sheaths belonging to the flexor tendons on the inner side of the foot. Here the synovial lining is distinctly

pulpy. In different places throughout the thickened pulpy membrane are collections of tissue of a much softer and more cream-like consistency.

A median section carried through the foot shows all the joints and articular cartilages thereby exposed, healthy, with the exception of the calcaneo-astragaloid, and astragalo-scaphoid where the synovial membrane is similarly, but not so extensively, involved as at the ankle-joint.

The tarsal bones, more especially the astragalus and os calcis, present a somewhat mottled appearance, being vascular in parts while elsewhere highly fatty. With extreme ease the cancellous tissue can be fractured, and particularly does this apply to the os calcis where slight pressure of the finger-nail is sufficient to break down the tissue.

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## GLASGOW SOUTHERN MEDICAL SOCIETY.

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SESSION 1886-87.

MEETING V.—23RD DECEMBER, 1886.

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MR. T. F. GILMOUR *in the Chair.*

### THE TREATMENT OF ERYsipelas.

By DR. ROBERT POLLOK. (See page 342.)

*Dr. Couper* preferred to give ammonia and bark rather than iron, but he prescribed iron and quinine when the temperature rose high. He recommended Gamgee's tissue as a protective from the air, and used evaporating lotions when the heat was great.

*Dr. Stewart* thought that a paint consisting of iodoform dissolved in collodion formed a good application in erysipelas.

*Dr. Park* recommended the combination of liquor ammonii acetatis with the tincture of the perchloride of iron. He had found iodoform of much benefit in a case where there was burrowing of pus under the scalp, the patient being apparently in a dying condition.

*Dr. Duncan* was in favour of the expectant method of treating erysipelas. He used, however, a 5 per cent solution of carbolic acid in oil, which he thought was most effectual in preventing the growth of the micrococci existing in that

disease. The internal treatment should be adopted with the same end in view. He found perchloride of iron and chlorate of potassium very beneficial in anaemic cases.

*Dr. Erskine* spoke in favour of finely powdered boracic acid as an application in erysipelas of the face. He had found it very useful in cases of that disease complicating ear affections. Very recently he had observed a case of extensive erysipelas of the face which had arisen from chronic purulent inflammation of the right tympanic cavity in a child of twelve years. The discharge of pus was obstructed by stenosis of the external meatus, but its calibre having been restored by means of cotton-wool tents impregnated with boracic acid powder, the part was thoroughly cleansed and the face dusted with that powder and covered with a thin layer of wadding. A saline aperient was given and wine and milk were ordered in addition to the ordinary diet. The erysipelas under this treatment disappeared in about ten days.

The worst cases of erysipelas he had seen had been traumatic. In one case of a wound of the scalp, the disease extended from the head to the neck and trunk, and free incisions had to be made.

*Dr. Hamilton* recommended white lead paint as an application in erysipelas, and thought other tonics were as good as preparations of iron.

*Mr. Gilmour* regarded erysipelas as always traumatic and held that a solution of continuity existed in every case. He thought that the head and face were most commonly affected because they were the most exposed parts of the body. He noted that the junction of the mucous membrane and skin was the most usual place for erysipelas to arise.

## GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

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SESSION 1886-87.

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MEETING III.—22ND DECEMBER, 1886.

THE following gentlemen were duly elected Fellows, viz.:—  
Drs. W. W. Anderson, Richard H. A. Whitelock, S. George Campbell, and Mr. Skene Keith, F.R.C.S.E.

## I.—(1) A TYPICAL BATTLEDORE PLACENTA, AND (2) SPECIMENS ILLUSTRATING EFFECTS OF INJURY IN A TWIN PREGNANCY.

By DR. JOHN GLAISTER.

The latter consisted of a placenta and foetal remains, with about 6 inches of funis attached. They were obtained at her accouchement, from Mrs. R., on 18th November. The living child was a female at full time. The presentation was the first cranial, the placenta followed immediately, and the mother made a good recovery. Dr. Glaister said:—At the beginning of labour, when the os was dilated to the size of a crown piece, I felt beside the presenting head, between it and the uterine wall, a sharp projection, not very extensive. I at first thought it might be the edge of a calcareous placenta; but, as labour advanced, I inserted two fingers beyond this point, and, finding it movable, brought it away. An irregularly shaped flat body, it proved to be the remains of a foetus about  $3\frac{1}{2}$  months old, judging from its size. The limbs are apparently intact, except one of the forearms, the bones of which are found to be imbedded in the membranes. It is evident inflammatory action had followed the death of the foetus, since one of the feet is found attached by a lymph deposit in the form of a band to the body, and other parts show traces of lymph formation. The cord is still attached to the body.

The placenta was in one mass, divisible, however, into two parts—viz., a larger one composed of ordinary placental tissue of the usual flesh colour, and a smaller part consisting of degenerated tissue of a markedly white colour, and evidently that portion which had nourished the dead foetus up till the time of its death. There was only one chorion and one amnion.

The history of the patient evidenced that when she was pregnant  $3\frac{1}{2}$  months she sustained a severe fall down a narrow spiral iron stair whereby she was severely bruised.

Considerable discussion ensued, which in the main was favourable to Dr. Glaister's theory that the fall was the cause of the death of the twin, and that its death had led to the changes observed in the placenta.

## II.—FOETAL SKULL.

DR. W. L. REID

Exhibited a Foetal Skull, and gave a narrative of the case, from which it appeared that the mother had been

admitted into the Maternity Hospital suffering with dystocia from disproportion, after the accoucheur outside had failed to deliver with forceps. A fatal result ensued to the foetus, which was delivered after basilysis, and to the mother, 36 hours *post-partum*, from purulent cellulitis and embolism. The *post-mortem* appearances were detailed at length.

Dr. Sloan thought the case illustrated the danger of basilysis. He thought possibly pre-existent pyosalpinx and acute septicæmia might account for the rapidly fatal result to the mother.

Dr. Abram Wallace advocated cephalotripsy.

Dr. Glaister also favoured cephalotripsy, and thought that the history of the case as well as the facts of the *post-mortem* clearly pointed to acute cellulitis and cardiac thrombosis as the cause of death to the mother.

Dr. Park agreed with the previous speakers as to cephalotripsy being a preferable operation to basilysis, and with Dr. Glaister as to the cause of death in the mother. He dwelt on the absence of peritonitis as being unfavourable to the septicaemic theory.

Dr. Campbell mentioned that the patient's pulse was very quick before delivery and thought the temperature and pulse should both have been noted *post-partum*.

Dr. Reid admitted that he had most faith in the cranioclast and thought Dr. Glaister had taken the correct view of the cause of the mother's death.

### III.—A REVIEW OF THIRTEEN YEARS' PRIVATE OBSTETRIC PRACTICE.

By DR. J. K. KELLY.

After guarding himself by premising that there are two kinds of imperfections besetting a review such as this—viz., those inherent in the recorder, as, to wit, his haste, his insufficient acquaintance with the bearing of all the events that occur, and his want of opportunity and skill for scientific investigation, and those inherent in the present condition of general practice: he said that his results were given as approximately and not absolutely correct.

In the thirteen years 1873-1885 he had attended 2,823 confinements at which 2,868 children were born.

After quoting Matthews Duncan, A. H. McLintock, and Florence Nightingale, as to the estimated mortality of childbed in hospital and private practice, he said that Duncan owned to a death-rate of 1 in 105 in his private practice alone, Sir

J. Simpson 1 in 45, M'Lintock 1 in 108, and Dr. Clarke 1 in 174.

His own mortality had been 1 in 166 or 17 in 2,823. But, as the mere aggregate mortality of childbed is not a true gauge of the death-rate of the puerperium from causes solely connected therewith, it became necessary to exclude such deaths as had arisen from causes foreign to pregnancy and parturition. Deducting deaths arising from causes extrinsic to parturition he reduced his mortality to 1 in 235·2, and, further, one case attributable to "delay in using forceps" and another to "bad nursing," he arrived at an "approximate normal mortality" of 1 in 282·3.

Taking the *last 6 years* of his practice, during which he had attended 1,233 cases, his percentage was only 1 in 411.

He contested Duncan's conclusion that the mortality of first labours is about twice that of all subsequent. Taking the last 6 years of his practice he found it showed 284 primipara with no deaths and 949 pluripara with 3 deaths due to puerperal causes, or 1 in 316·3.

He found, also, that his experience did not confirm Duncan's conclusion that after a ninth pregnancy a woman again became subject to increasing risk. In the last 6 years he had attended 48 cases under this category (ninth to nineteenth pregnancies), with only one death and that from scarlet fever.

He then passed on to the subject of infantile mortality and, after making all fitting eliminations and reckoning only those cases where the pregnancy had proceeded into or to the end of the ninth month, he showed that after all, his mortality amounted to 1 in 69·7.

After reviewing the mortality in different presentations he passed to the question of assistance rendered.

Two considerations had always led Dr. Kelly to use the forceps in cases where if he had followed the teaching of either Leishman,\* Schroeder,† or Barnes,‡ he would not have used them. 1st. It is *practically* impossible to measure the conjugate diameter to within a few eighths of an inch in the parturient woman, and the practitioner has no correct test of the capability of the pelvis if he does not test it by the head of the foetus itself, and if he is to apply this test he must do so in a genuine and not in a timid or hesitating way. His practice had led him to believe that the lesions to vagina, bladder, and rectum, which are attributed to violence are more probably due to long continued pressure. Anyhow, he had never seen either a recto-vaginal or a vesico-vaginal

\* *System*, p. 521.

† P. 259.

‡ Vol. ii, p. 582.

slough or fistula, and thought it only reasonable that a force which acts only for a few minutes was much less likely to do injury than one which, though it may be somewhat less in intensity, is maintained in action perhaps for hours.

2nd. Even if the diameters of the pelvis could be exactly measured, such measurement could give no satisfactory test of the capability of the pelvis, for there is a factor which may disturb even the most careful measurement—viz., the distensibility of the pelvis. The mobility of the pelvic joints in pregnancy is referred to by almost all obstetric authors, and especially by Leishman and Barnes whom he quoted. He thought that anyone who carefully watched the progress of a labour, especially when a large head was engaging at the brim, could hardly fail to note a change in the direction of increased capacity. Often, even when regarding the bed-clothes, the patient being on her left side, a very marked elevation of the right hip may be noted. This elevation denotes an increase in the cavity of the pelvis and is the explanation of the greater ease with which labour is completed in the sitting posture or on the knees. In these postures the sacro-iliac articulations of both sides are allowed free play, whereas, in the posture on the left side the weight of the body pressing on the left hip bone to some extent prevents its motion on the sacrum.

These two considerations, then, had led him to use the forceps, not in a "gentle attempt," as Leishman phrases it, but in a thorough-going way in every case of contraction, however great, in which it was possible to seize the foetal head with that instrument. He had had 10 cases of abnormally small pelvis = 1 in 282.3 cases. Forceps were used in every one without any maternal mortality, but with 3 still-born infants.

He preferred forceps to turning where the pelvis was small in relation to the head (usually the case in funis presentations), because (a) he had more power over the progress of the labour, and (b) the child's head was in a more favourable position for passing through the pelvic canal without delay.

He always used *straight* forceps, as its chief function was not to be able to grasp the head easily, but to draw it, easily if possible, through the pelvis. It is an instrument through which a great amount of force is transmitted, and it cannot be transmitted in a curved direction. Thus, Tarnier demonstrated that in using forceps with a pelvic curve one spent nearly half their force in trying to split open the pubic symphysis, and the other half only went to effect the real object in view

—viz., the traction of the head in the direction of the pelvic axis. To obviate this loss of force he designed his axis traction forceps. Dr. Kelly thought these an unnecessary invention, as he had never seen a case where he could not seize the head at the brim with the straight forceps. He saw no objection to pressing on the perineum by the forceps if necessary to do so in order to get a good grasp of the head. The pressure of the shanks of the forceps upon the perineum partially stretches it and prepares it for the greater stretching which will come when the head reaches it.

He had never hesitated to use forceps whenever he thought he could render assistance, and he thought that there was only one limit to this interference which could be clearly formulated. Forming a clear conception of the effect we desire to produce, we should interfere only so far as is necessary to produce that effect. We should not set any force in operation whose amount we cannot exactly measure and regulate with a view to the desired effect. On this ground he objects to the administration of ergot, as it supplies a stimulus to the womb which is measurable neither in its force nor in its duration, and would be justifiable only if we could use no other stimulus the force and duration of which we have under control. He had never found occasion to use ergot in his own practice. Uterine action can be stimulated by dilating the os, by rupture of the membranes, by friction and pressure of the abdomen—all means which are absolutely under control. These being inadequate, we can always terminate the case by the forceps, as soon as the os is sufficiently dilatable, if there is any indication that a speedy delivery is required.

He objected, further, to the use of ergot owing to the dangerous effects liable to be produced on the foetal circulation by the persistent contractions set up.

He had never seen *post-partum* haemorrhage, and had never had a death from it, and had therefore never administered ergot *post-partum*.

He believed a firm pad well placed under a tightly drawn binder the most effectual prophylactic of *post-partum* haemorrhage, by inducing active uterine contraction and maintaining apposition of the uterine walls.

He also objected to chloroform. He had seen it used and assisted in administering it, and had used it in one case himself, but he had not seen sufficient benefit from its use to make him cease to prefer the active co-operation of a rational creature in the fulfilment of a natural function, apart altogether from the danger inherent to chloroform itself.

Dr. Kelly concluded by detailing some of the more unusual occurrences which he had experienced. He had had 2 shoulder and 9 face presentations; 1 case of triplets and 43 of twins; 2 of placenta *prævia*; 17 of adherent placenta; 2 phlegmasia dolens; 2 puerperal mania; and 2 pelvic cellulitis going on to suppuration. Then, as to foetal deformities, he had met with 3 cases of spina bifida (2 cervical, 1 lumbar); 2 anencephalous; 3 harelip; 2 absence of left hand; 3 hydrocephalus; 1 apparent absence of cervical vertebrae (lived 7 days); 1 epispadias. The details of this last are as follows:—The upper surface of the penis presented the appearance as if the urethra had been slit open along its upper wall, and spread out. The urine issued from under the arch of the pubis along this upper surface. Early in pregnancy the mother had heard of a neighbouring Jew's child which had been circumcised, and had died in consequence. Her mind had often recurred to this, and she had hoped that her child would be "like the world."

Two of his patients had taken scarlet fever during the puerperium, with the result that 1 died and 1 lived.

He had noted many cases where long periods had elapsed betwixt pregnancies, married life being uninterrupted.

He had had many cases of ruptured perineum, but had never performed perineorrhaphy, and thought the number of cases where that became necessary was very small in proportion.

He had never seen a case of injury to the bladder, such as a vesico-vaginal fistula, though he had frequently had to deal with temporary retention.

On the motion of Dr. Turner, seconded by Dr. Reid, the discussion was adjourned.

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## REPORTS OF HOSPITAL AND PRIVATE PRACTICE.

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### CITY OF GLASGOW FEVER HOSPITAL, BELVIDERE.

CASE OF SCARLET FEVER WITH OEDEMA OF THE LUNGS.—[Under the care of and reported by D. J. Mackintosh, M.B., C.M.]

CASE I.—J. M., age 11, admitted 5th October, 1886. Illness began fourteen days previous to admission with sore throat,

headache, sickness, and vomiting ; patient was not confined to bed, but had been allowed to run about bare-footed. On evening of 4th October, swelling of the body, face, and limbs was observed, also that the urine was diminished in quantity.

On admission there was general dropsy ; urine contained a large amount of albumen, and there was evidence of desquamation on the hands. On auscultation of chest, fine crepitation was detected at both bases. Treatment adopted : poultices applied over kidneys every two hours ; 5 minimis tinct. digitalis every four hours, and hot packs.

*6th October.*—Patient only passed 13 ounces of urine during last twenty-four hours ; urine contained a large amount of albumen ; had several severe attacks of breathlessness to-day, and felt as if he were to be suffocated. Dr. Allan saw the case in consultation, and recommended 10 minimis tinct. digitalis every hour ; poultices over kidneys to be continued, with infusion of digitalis smeared over surface of poultice. Bowels were freely moved to-day.

*7th October.*—Several times during the night patient seemed to be almost suffocated ; he has passed 29 ounces of urine during last twenty-four hours. Urine still very albuminous, and to-day it contains a trace of blood. The breathing this morning is considerably relieved. To have gin, 4 ounces, in addition to previous treatment.

*9th October.*—Has had no attacks of breathlessness to-day ; urine contains albumen, and a considerable amount of blood, but is being passed in fair quantity. The skin is now acting freely, and dropsy is much less.

*10th October.*—The urine to-day is bright red with blood ; digitalis stopped. To have 10 minimis tinct. ferri mur. every two hours.

*12th October.*—Urine still contains a large amount of blood, but is being passed in good quantity. There is now no puffiness of eyelids or oedema of feet. Hot packs and poultices over kidneys stopped.

*17th October.*—Patient is now passing a large quantity of urine ; 60 ounces last twenty-four hours, and there is only a trace of blood to be detected ; had slight sickness to-day, probably due to the gin, which has been stopped. To have 10 minimis tinct. ferri mur. every four hours.

*3rd November.*—Urine has been perfectly clear since last note, with the exception of a slight haze on 1st and 2nd inst. To have iron mixture three times a day.

*16th November.*—Urine has been perfectly clear since last note. Patient is now moving about ; iron mixture stopped.

*11th December.*—Patient is now in perfect health, and was dismissed to-day.

It is interesting to note the marked increase in the quantity of urine, and the disappearance of the dyspncea, after pushing the digitalis, but accompanied with the appearance of blood in the urine, the haematuria gradually becoming less, and finally disappearing.

**CASE II.**—T. D., admitted 1st November, 1886. Illness began fourteen days ago with sore throat; swelling of the face first observed three days ago; has only been confined to bed during latter period.

On admission there was general dropsy, the swelling of eyelids and feet being very considerable; submaxillary glands were enlarged. Cough was very troublesome, while fine crepitation was heard at bases of both lungs. Treatment adopted: hot packs, poultices over kidneys, 10 minims tinct. digitalis every four hours, and gin, 3 ounces.

*2nd November.*—Had considerable difficulty of breathing during the night. Passed 10 ounces of urine last twenty-four hours, which contains a large amount of albumen. Bowels were freely moved this morning, and skin is acting freely.

*4th November.*—The breathing is now relieved; urine is hazy, but passed in better quantity; 28 ounces last twenty-four hours; was sick and vomiting this morning. Having iced milk.

*8th November.*—The dropsy has almost disappeared; urine still hazy, but passed in good quantity. No cough; chest clear.

*15th November.*—Urine has been perfectly clear for last three days; passed 67 ounces last twenty-four hours. No dropsy. Digitalis mixture stopped. To have 5 minims tinct. ferri mur. every four hours. Patient is now desquamating freely.

*6th December.*—Urine still clear; is now moving about.

*29th December.*—Urine has remained clear; general health good. Dismissed well.

## ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

## NERVOUS DISEASES.

BY DR. G. S. MIDDLETON.

**Locomotor Ataxia.**—Three papers dealing with this disease have lately come under our notice, and deserve some attention.

In a recent note presented to the *Académie des Sciences*, M. Pierret, of Lyons, deals with the pathology of the disease. In 1879, and again at the London Congress of 1881, he brought forward the view that besides the lesion in the posterior columns, there is commonly also a lesion of the terminal nerves, a peripheral neuritis, accounting in many cases for the peripheral symptoms, but much more pronounced than the symptoms would indicate. In support of this view, he quotes Dejérine's communications on locomotor ataxy without lesion in the cord. (See *Glas. Med. Jour.*, 1884, vol. xxi, p. 154.) He is now able to state that these lesions are not absolutely constant, and that they may be curable, as in one case in which he has observed restoration of the nerve fibres in a cutaneous nerve. Hence he concludes that the painful symptoms, referable to the peripheral neuritis, may be relieved, especially by certain thermal springs.—(*La France Médicale*, 22nd July, 1886.)

In a clinical lecture, delivered at the General Hospital, Birmingham, on "Illustrations of Locomotor Ataxy," Dr. Saundby covers a wider field. In regard to the etiology of the disease, he places the causes in order of frequency—syphilis, injuries to the spine, exposure to cold and wet, and venereal excess. The chief interest of his lecture lies in the report of eleven cases, some of which presented quite unusual phenomena. In one case, the knee-jerk was normal, in another, exaggerated. In three there was no ataxy. In two cases there coexisted with paroxysmal haemoglobinuria, various signs met with in locomotor ataxy—viz., Westphal's and Argyll-Robertson's signs, and lightning pains. In one case, confirmed by *post-mortem* examination, there was locomotor ataxia from a traumatic cause. The chief interest of this case lay in the fact that there was bilateral paralysis of the abductors of the larynx, and while the lesion in the cord could be traced up to the medulla oblongata, the recurrent laryngeal nerves were found in a state of chronic interstitial neuritis. In another case the ataxy was succeeded by trophic disturbances, an apoplectiform attack, aphasia, vesical crises, and an epileptiform attack, ending in general paralysis of the insane. In reference to this case, Dr. Saundby remarks that it is not a satisfactory explanation of such cases to say that the lesion has spread from the cord to the brain. For, in locomotor ataxy the lesion is very chronic, slowly, and only occasionally involving the grey matter of the cord, and its characters are those of sclerosis; while in general paralysis the lesion is essentially diffuse, and rapidly generalises itself, destroying not only nerve fibres but nerve cells, and being of the nature of a softening rather than of a sclerosis; besides, it specially attacks the motor areas in the cortex. He suggests that his case is really one of general paralysis, in which the spinal symptoms had appeared before the cerebral ones.

After describing the lesion commonly met with in this disease, Dr. Saundby insists on the fact that there is no absolute interdependence between this lesion and the symptoms of ataxy. In a case noted below the posterior columns were found intact, as in the cases of Dejérine above noted. There are, besides, grounds for believing that the symptoms may be present before actual sclerosis occurs. And as it is difficult to distinguish with certainty between all cases of

peripheral neuritis, an essentially curable disease, and locomotor ataxy, besides for other reasons, Dr. Saundby holds that the prospect for those with the symptoms of ataxia is not so hopeless as most believe. Improvement has been the rule in the cases he has seen, but their ultimate issue is not known to him in many instances. The stage of the disease influences the prognosis, which is more favourable, as a rule, in the early stage, but he believes second stage symptoms of *short duration* are more hopeful than earlier symptoms of *long standing*. In regard to treatment, he insists on the avoidance of cold and damp, and in the ataxic stage on rest in bed during the greater part of the day. Anti-syphilitic remedies are to have a thorough trial in all cases; mercury by inunction, and the iodide of potassium internally. When these fail, then use nitrate of silver. When there is much neuralgic pain, a blister down the spine, kept open for a week or two, has been serviceable in his hands.—(*Birm. Med. Rev.*, Nov. and Dec., 1886.)

A perusal of Dr. Saundby's lecture suggests the probability that under the name of locomotor ataxia there is embraced a variety of cases with differing pathological conditions, the comparative infrequency of *post-mortem* observations and the difficulties presented in the investigation of nervous lesions rendering this likely to be the case.

This is further illustrated in a reprint from the *Clinical Society's Transactions* (vol. xviii), of "A case of locomotor ataxy without disease of the posterior columns of the spinal cord," by Dr. A. Hughes Bennett. In this instance the case presented most of the symptoms of the above disease, and was recognised as such by all the physicians who saw it, and yet, at the *post-mortem* examination, the posterior cords were found intact, while sarcomatous disease was found in the sheath of the cord compressing the posterior nerve roots, as also in various other situations. Dr. Bennett presumes that the symptoms were due to this pressure. Hence, from this case, Dejérine's cases, and some of Saundby's cases, it would appear that a group of symptoms, by which we would be led to diagnose locomotor ataxy, may be due, not to disease in the posterior column of the cord, but to lesion of the posterior nerve-roots, or even to peripheral neuritis, and hence the prognosis, as above indicated, must be modified.

**Curability of Tubercular Meningitis.**—In the *Rev. Internat. des Sciences Médicales* (31st Aug., 1886), Dr. Eug. Martel has gathered notes of eight cases of tubercular meningitis cured by the inunction of iodoform. Five of the cases are recorded by Dr. Worfvinge (Stockholm), who speaks very hopefully of this treatment. All his cases evidently were meningeal, but it is not equally clear that all were tubercular. Besides adopting the usual internal remedies, he orders the head to be shaved, and inunction of 1 grammme of iodoform in 5 grammes of vaseline to be made night and morning; 2 grammes of iodoform are thus rubbed in daily, and considerable irritation of the scalp frequently follows. After inunction, the head is covered with a light, waterproof cap. In his five cases, inunction was carried on for 17, 19, 30, 32, and 9 days respectively.

**Insanity as a Complication of Chorea** is believed by Prof. Ball to be a common affection in its slighter forms, but rare in its graver ones. Children suffering from chorea are passionate and resent remonstrance. They lack the power of sustained attention. Memory is enfeebled. Hallucinations exist, especially of vision. Chorea insanity is characterised by the intimate relation between the disorders of motility and of intelligence; when the one disappears, so does the other. In some cases one of the most striking phenomena is a disorder of speech, words flowing from the patient's tongue, as it were, without his control. M. Ball recognises a choreic mania, which sometimes terminates fatally, examination after death showing either no lesion or slight meningitis or softening. Instead of a fatal termination or of recovery, the case may end in melancholia and stupor. M. Ball gives several cases in illustration, and states that these are the cases where mental

exercise and recreations are the main elements in the treatment, while of medicines opium is to be preferred to bromides.—(*La France Médicale*, 9th March, 1886.)

**On the Treatment of Tetanus.**—Dr. A. Hiller, of Breslau (*Centralbl. f. Chir.*, 27th November, 1886), argues that the mode of death in tetanus is by hyperpyrexia, and that, therefore, successful results might be expected from an antipyretic method of treatment. Very high temperatures do occur in severe cases of tetanus,  $43^{\circ}$  C. ( $109.4^{\circ}$  F.) and slightly upwards being not uncommon shortly before death. Wunderlich found in one case a temperature of  $44.75^{\circ}$  C. ( $112.5^{\circ}$  F.) shortly before death, rising to  $45.4^{\circ}$  C. ( $113.7^{\circ}$  F.) shortly after death. The hyperpyrexia apparently is due to the excessive and continuous muscular action. The relationship between the abnormal muscular action, hyperpyrexia, and death, appears to be proven by experiments upon dogs by E. Leyden and Ch. Richet, who produced in them artificial tetanus by direct electrification of the spinal cord. Hyperpyrexia to the extent of  $43^{\circ}$  C. ( $109.4^{\circ}$  F.), from whatever cause proceeding, he holds to be in itself dangerous to life, and a rise to  $44^{\circ}$  C. ( $111.2^{\circ}$  F.) probably inevitably fatal. The first indication, therefore, in the treatment of tetanus, is to reduce the temperature, which would at least hinder a fatal termination, and relieve much of the patient's suffering. The use of cold water in any way is of course out of the question, Dr. Hiller would try tepid baths, about  $86^{\circ}$  F., but would rely most upon antipyretic drugs, such as thallin and antipyrin, aided by subcutaneous injection of pilocarpin. It does not appear that he has actually treated any cases in this way, but he discusses the method in detail, and commends it to the attention of hospital surgeons.—D. M'P.

**"Reinforcement of Reflexes" in Spinal Diseases.**—In an interesting paper read before the Association of American Physicians at Washington (17th June, 1886), Drs. S. Weir Mitchell and Morris J. Lewis claimed to have increased considerably the knowledge of the symptomatology of spinal diseases, especially of posterior sclerosis (*v. Boston Med. and Surg. Journ.*, 24th June, 1886). They showed that every distinct muscular exertion, such as winking, if accurately timed, exaggerates the phenomena of muscle and tendon reflex. "To demonstrate this the patient should lie down with the knee slightly bent. At the time that the tendon is tapped, or just before, the patient is directed to wink, and it will be noticed that the jerk is much increased. This is more beautifully shown in the act of phonation, the patient being directed to count strongly, bringing the whole chest into play at the time that the test is applied. A decided sensation, such as heat, cold, or an injury, will increase the responsive powers of the muscle or tendon which has been struck. Both the tendon and muscle jerk are reinforced by irritation of distant parts. This reinforcement disappears when the muscles are cut off from the spinal centres.

"The phenomenon of reinforcement was attributed to an increase of tone in the muscle as a result of the distant irritation."

Dr. E. C. Seguin suggests that the reinforcement "evidently belonged to the general class of reflex actions, as contra-distinguished from direct volitional action, and that when the patient performed some movement, or when his attention was attracted by excitation of a sensory nerve, the cerebral inhibitory influence over the spinal cord was momentarily reduced, and the reflex powers were raised for a moment. The reinforcement seemed to be rather a negative condition."

Another observation of Drs. Mitchell and Lewis was "in regard to associated movements. In a certain proportion of cases, if the patient is directed to shut his right hand, the left hand will also shut to a certain extent, and if the patient is sitting down, the leg may be drawn up. This condition has become more marked as the ataxic condition has increased."

"Another symptom referred to, and which was considered a new symptom, was prominence of the eye-balls. While the condition is not so marked as in

exophthalmic goitre, it is sufficiently distinct to be apparent, if attention has been called to the matter."—D. M'P.

**Absence of Pupillary Reflex.**—Uhlhroff (*Archives of Ophthalmology*, vol. xiv, p. 231) has published a very interesting tabulation of cases in which there was absence of pupillary reflex (Argyll-Robertson pupil). He first reviews the results of the examination of 4,000 cases of mental disease by Mceli, Thomson, Siemerling. In these absence of pupillary reflex occurred in 492 individuals, of whom 421 were general paralytics; 21 had tabes; 11 senile dementia; 11 chronic alcoholism; 9 syphilis; 6 focal lesions; 3 head injuries without other cerebral symptoms; and 10 had either mental alienation or epilepsy. The fact that these 4,000 cases were all cases suffering from mental disease accounts, of course, for the comparatively small number of tabetics. Old age, while very often producing small pupils, does not produce an absence of pupillary reflex. The symptoms occurred in more than half the cases of general paralytic.

Uhlhroff himself made three distinct sets of observations.

1st. He examined several hundred healthy persons, and did not find the pupillary reflex absent in a single one.

2nd. He examined a large number of cases in various hospitals, and only found the condition present in cases that would naturally come to a clinic for nervous diseases.

3rd. He examined 550 patients in Westphal's Clinic for Nervous Diseases, and 12,000 cases attending Scheeler's Clinic for Diseases of the Eye. Among these 12,550 cases, absence of pupillary reflex occurred 136 times, excluding cases of ophthalmoplegia interna. Of these 136 cases—

I. 92 had tabes, including 6 in which the diagnosis of tabes was not absolutely certain, 4 in which the light reaction was not absolutely wanting, 29 in which optic atrophy existed, 15 who had ocular paralysis, 5 who had paralysis of accommodation in one eye, and 12 in which there was marked difference in the size of the pupils.

II. 12 had general paralysis, and of these, 4 had optic atrophy.

III. 11 had syphilis, including case of cerebral syphilis.

IV. 8 had other cerebral diseases; injuries to the head, 2; cerebral tumour, 2; hydrocephalus, 1; post-neuritic atrophy, 1; hemiplegia, 1; pachymeningitis, 1.

V. 2 had multiple neuritis.

VI. 2 had railway spine.

VII. 2 were congenital with rudimentary iris.

VIII. 1 was congenitally imbecile, with retinitis pigmentosa and concentric diminution of the field of vision.

IX. 1 had innominate aneurism, probably pressing upon the sympathetic nerve.

X. 1 had used tobacco to excess.

XI. 1 had a head injury and chronic alcoholism.

XII. 1 had right hemianesthesia.

XIII. 1 had hystero-epilepsy.

XIV. In 3 the cause was unknown.

In addition to these cases, there were 30 in which there was loss of power of accommodation, as well as of pupillary reflex (ophthalmoplegia interna), which are classified as follows:—

Syphilis,	.	.	.	6	unilateral,	2	bilateral.
Tabes,	.	.	.	3	"	1	"
General Paralysis,	.	.	.	1	"	1	"
Trauma,	.	.	.	0	"	2	"
Chill,	.	.	.	1	"	0	"
Tubercular Meningitis,	.	.	.	0	"	1	"
Cerebral Tumour (?),	1	case.					
Cause unknown,	.	.	.	5	"	7	"

—(*Boston Med. and Surg. Journal*, 5th August, 1886).—D. M'P.

## MEDICINE AND PATHOLOGY.

BY DR. JOHN LINDSAY STEVEN.

**On the Aetiology and Pathological Anatomy of Acute Inflammations of the Lungs.**—By Prof. Weichselbaum, of Vienna.—This is an important paper dealing with the pathology of inflammatory affections of the lungs, from the bacteriological point of view, and it represents a large amount of good honest work. The conclusions of the author are based upon the observation of 129 cases of pneumonia in which bacteria were found, and on 93 cultivation experiments. The 129 cases included all varieties of pneumonia, primary, secondary, lobar, lobular, &c. The author found four different varieties of micrococcus, which he names respectively—diplococcus pneumoniae (corresponding to the pneumoniacoccus of Fränkel, and the coccus lanceolatus of Talamon), streptococcus pneumoniae, staphylococcus (corresponding with the common *Traubenkokkus*), the bacillus pneumoniae (corresponding to Friedländer's *pneumoniekokkus*, except that it is a bacillus). The characteristics of the cultivation of the different organisms are next fully described by the author. The bacteria are always most abundant and capable of proliferating in the earliest stages of the disease. Where brown or grey hepatisation has occurred, the organisms are few and feeble; but at the margin of the morbid area, or in the surrounding oedematous tissue, one is astonished to find them so numerous. The author also draws attention to certain pathologico-anatomical changes in pneumonia, which have not hitherto been taken notice of—viz., an acute oedema of the mediastinal tissues, between the clavicles, around the oesophagus, in the sub-mucous tissue of the pharynx, &c. He regards this oedema as inflammatory, and has found in these parts the same micro-organisms. These changes help to explain the occasional complication of meningitis in pneumonia, the meninges being involved by direct continuity with the lung, in the way in which a phlegmonous inflammation spreads. The author next gives an account of 200 experiments on animals, the culture products being used, the methods being by injection into the pleura, and under the skin, and by inhalation. As the result of his work, he comes to the following conclusions:—

(1.) The bacteria found in the different forms of inflammation of the lungs are to be regarded as the causes of these. His experiments leave no doubt of this.

(2.) The pneumonic virus is not specific (*einheitliches*), at least in the sense of Liebermeister and Leichtenstern, because acute inflammations of the lungs, as well as croupous pneumonia, can be brought about by different varieties of micro-organism.

(3.) Our customary classification of pneumonia into lobar and lobular, into croupous and non-croupous, has indeed an anatomical, but no aetiological, significance, or, in other words, a lobular pneumonia can be excited by the same organisms as a lobar, a splenisation as a hepatisation. Again, the so-called secondary pneumonias are, etiologically considered, really not secondary, *i. e.*, they do not require to be excited by the same virus as the preceding process, so that they are really genuine pneumonias.

(4.) The diplococcus pneumoniae is to be regarded as the most prolific cause of inflammation of the lungs, especially of croupous pneumonia. Friedländer's bacillus appears to be comparatively seldom the cause of pneumonia.

With regard to the influence of cold in producing pneumonia, he thinks that it does so by forming a favourable breeding ground for the micro-organisms.—(*Wiener Medizin. Wochenschrift*, Nos. 40 and 41, 2nd and 9th October, 1886, pages 1339 and 1367.) Also *Medizinische Jahrbücher*, viii heft. Wien: Alfred Hölder. Page 483.

## DISEASES OF THE EAR.

BY DR. WALKER DOWNIE.

**The Hearing Power of Deaf Mutes.** By Dr. Chas. G. Lee.—His attention having been directed to the amount of hearing power possessed by a proportion of the so-called deaf mutes, by a paper in the *American Annals of the Deaf and Dumb*, Dr. Lee examined 100 children at the Liverpool School for Deaf and Dumb. The tests applied were speech, watch, vibrating tuning-fork with and without clamps, bells, whistles, a binaural hearing trumpet, &c. As is the case in conducting such examinations, he had to resort to many artifices in order to arrive at definite conclusions, as such children often intimate that they hear the sound of the tuning-fork, &c., when in reality no sound is being produced. Of the 100 cases (from 8 to 16 years of age), 52 of which were reported congenital, the deafness of the remainder being traced to scarlatina, measles, &c., he found that in 65 the aural nerves were totally irresponsible, even to the most powerful excitants. In 11 of the others it was impossible to tell whether they distinguished sound from mere sensation; 22 presented a sufficiently hopeful prospect to stimulate endeavours for their benefit; and 2, by the aid of the binaural tube, distinguished and repeated loud speech—those he considers most likely to reward further and specific education. To have such cases detected early, and thus be suitably educated, he thinks it necessary that a competent aurist should be attached to every institution for the training of deaf mutes.—(*Liverpool Medico-Chirurgical Journal*, 1886.)

**The Condition of the Petrous Bone in Deaf Mutes.**—In the *Archives of Otology* for September, 1886, there is a translation of a paper by Prof. S. Moos, of Heidelberg, and Dr. H. Steinbruegge, of Giessen, on the “Results of the Examination of six Petrous Bones from three Deaf Mutes.” The congenital malformations, and the various inflammatory changes present in the different portions of the ear and their significance, are given in detail, but cannot with advantage be here summarised.

**Foreign Bodies in the Ear.** By C. L. M. Iredell, M.R.C.S.—This paper, published in the *Australian Medical Journal* for September, 1886, was called forth, the author tells us, by the correspondence published in the *British Medical Journal*, opened by Mr. Jonathan Hutchinson in the number for 10th April, 1886. The letter referred to was a short one, advocating the use of a loop of silver wire, instead of either forceps or scoop, for the removal of foreign bodies in the ear. Mr. Iredell thinks that, in place of striking at the root of the evil—viz., the manner in which instruments of every kind are often used (misused!)—a less formidable weapon alone is suggested. In order to appreciate the difficulties to be surmounted, he reviews the conditions presented by a foreign body in the ear—the undilatability of the canal, the direction of the passage with its delicate terminal membrane, &c. In Sir Wm. Dalby's words, he urges the necessity of demonstrating by sight the foreign body before attempting its extraction. When a stream of water can pass the foreign body, the safest and easiest method of removal is by use of the syringe. Of other instruments, he finds the dental pick very useful; but, whatever instrument one may select or prefer, the point insisted upon is that it should be used under the direction of the eye, that the object should be thoroughly illuminated, and that the patient should not be under the influence of an anaesthetic, as the amount of pain produced is a guide to the amount of injury which is being inflicted.

Under the same title—"Foreign Bodies in the Ear"—Dr. J. B. M'Mahon, New York, publishes a translation in the *Archives of Otology*, for September, 1886, of a paper by A. Hedinger, Stuttgart. It is an exhaustive paper, dealing specially with the varieties of foreign bodies met with. In dealing with the subject he divides the bodies into (1) those liable to swell, and (2) those that do not swell. As regards results, he groups them under four headings—1, those which left no sequels; 2, those which caused injury by their presence (a) in the ear itself, (b) in other organs; 3, those which occurred in an ear already diseased; and 4, those which were the indirect cause of the ear disease, leading, after failure of the attempts at removal, to inflammation and its consequences—even to death.

Out of a total of 12,225 casual patients, he had 133 foreign bodies occurring in 124 individuals.

**Exostosis in the Auditory Meatus.** By John B. Story, M.B.—Mr. Story here gives details of a case of double exostosis in which he operated. The growths sprang from the posterior wall in each meatus, that in the right being the larger of the two, covered with a red skin, painless on pressure, and producing a singing noise, and marked deafness. This growth was so large that the finest lachrymal probe could not be passed between it and the wall, and was so deeply situated that its inner surface was in contact with the membrana tympani. He was induced to operate on account of the double obstruction to hearing. He twice used the dental drill, followed by electrolysis and Vienna paste, which resulted in necrosis, and in lessening the size of the bony growth.—(*The Dublin Journal of Medical Science*, January, 1887.)

**Cerebral Abscess from Ear Disease.**—Discussions on this subject accompanied by the demonstration of cases which have been successfully operated upon, have recently largely occupied the professional mind in Glasgow. The following case, which appears in the *Bristol Medico-Chirurgical Journal* for March, 1887, may therefore be of especial interest at this time. It is "A case of Suppurating Middle Ear, Thrombosis and Phlebitis of Lateral Sinus," by W. H. Harsant, F.R.C.S. Patient, 17 years of age, had purulent discharge from both ears, accompanied by deafness dating from an attack of measles in early life. On day before admission to hospital he had a fit and vomited; he became dull and stupid, and irritable when disturbed. Ears were syringed when large polypus was discovered filling the left meatus. Temp., 100°; pulse, 96. On following day he was decidedly worse, there being rigidity of right arm and leg, and during the night he had had several severe rigors. Temp., now 106.5°; pulse, 100, was semi-comatose, but no vomiting. Next day after consultation with colleagues, patient placed on operating table and Wilde's incision made on to left mastoid process, but nothing abnormal exposed, no pus, and no serous exudation. Mastoid antrum was then gouged, but no cavity reached. (At *post-mortem*, it was found that mastoid cells were here almost entirely absent.) Next a crucial incision was made, a little behind and below mastoid process where a piece of bone was removed with trephine with hope of reaching cerebellum, just below the tentorium, immediately behind the angle where lateral sinus passes down to the base of the skull. The dura mater was exposed, and on opening this with scissors a gush of dark coloured blood appeared, coming from the lateral sinus thus accidentally opened. This was arrested by pressure of finger, then wound was stuffed. Death occurred four days after operation.

At *post-mortem*, lateral sinus was seen to have been opened about one inch behind meatus. Close to this wound was a large thrombus almost completely obstructing the channel. Dr. Harsant satisfied himself that it did not start from the wound in the sinus, but must have existed for some days previously. There was no sign whatever of abscess, either in the cerebrum or cerebellum, no caries of temporal bone, and no meningitis.

Dr. M'Bride read a paper on "Cerebral Abscess from Ear Disease" before the Edinburgh Medico-Chirurgical Society, which appeared in *British Medical*

*Journal* for 19th March, and a paper on the same subject by Dr. Barr is published in same journal for 2nd April.

**Tinnitus Aurium and its Treatment by a new method of Alternate Injection and Evacuation of Air.** By Dr. Ward Cousins.—The interesting point in this paper is the introduction of a new method of treatment by a new instrument. The method consists in rapidly inflating the tympanum with air, pure or medicated, and as rapidly withdrawing the air again. He claims for this method that it promotes the immediate discharge of pent up secretion into the pharynx, is of service in treatment of collapsed and adherent membrane, and increases the mobility of the bony chain where this has been impaired by disease.—(*British Med. Journal*, 26th March, 1887.)

**Congenital Defects of the Ear.**—Dr. Simeon Snell, in the *Practitioner* for April, 1887, describes three cases of congenital defects of the ear. The deformity differed entirely in the three cases. In the first, on the deformed side there was nothing resembling an auditory meatus; the upper part of the auricle was represented by a cartilaginous ridge ending below in a soft fleshy portion somewhat like a piece of lobule. On this were one or two openings representative of the external meatus, but they were mere crevices. In the second the greater part of the external ear was absent, the auricle being represented by little more than its external rim (helix and anti-helix), there being no tragus, anti-tragus, nor any other cartilaginous portion. Meatus also absent. In the third case the cartilaginous portion of the ear was practically absent, the external ear being represented by little else than the lobule. Meatus also absent. Although thus differing as regards deformity, they resembled each other in the condition of the auditory nerve, hearing being present in all with watch in contact; and in one of the cases it was heard even at a considerable distance.

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## S U R G E R Y.

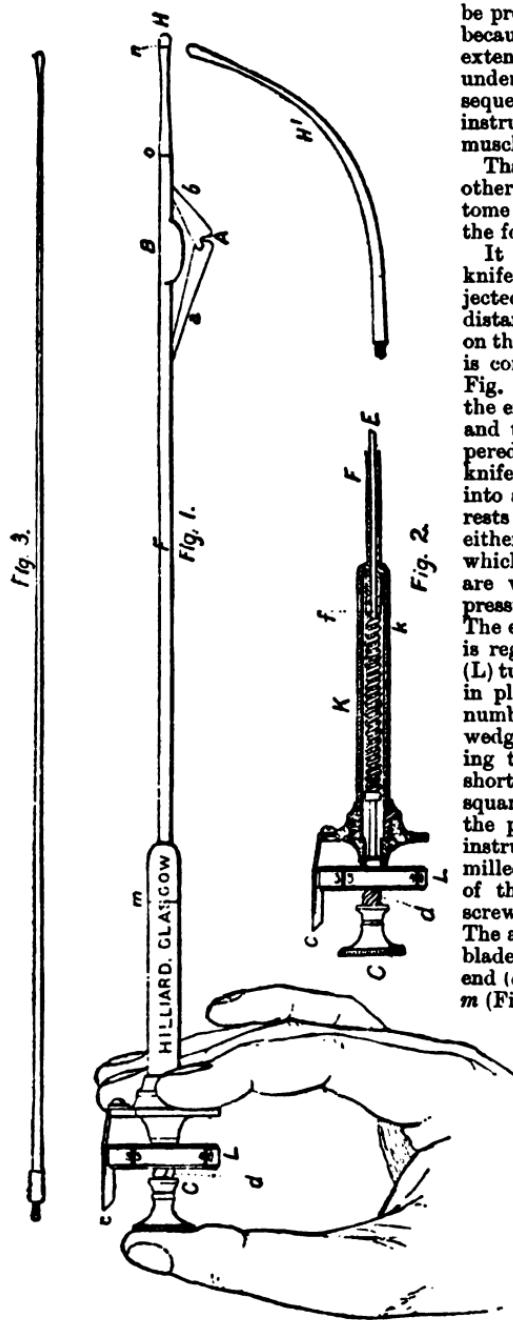
BY MR. A. E. MAYLARD.

**A Modified Form of Urethrotome.**—Dr. William James Fleming does not claim for his instrument many original features, only that it possesses the merits and avoids the faults of its predecessors.

There seem to be required in a perfect urethrotome at least seven qualities, viz.:

1. To be used with one hand.
2. To cut either from before back or from behind forward.
3. To incise any part of the circumference of the urethra.
4. To be easily regulated so as to cut to any depth, even when the blades are out of sight in the urethra.
5. To be of the smallest calibre possible when the blades are sheathed.
6. To be adapted to carry a guide bougie.
7. To be easily cleaned.

The value of the first of these may not be apparent, but with one hand you have a much more delicate sense of touch, which is all you have to rely upon in this operation. Who would hold a probe or a catheter with both hands? It is also advantageous to be able to grasp and steady the urethra with the free hand. To attain this the projection of the knives must



be produced by flexion of the fingers, because this is more powerful than extension, and much more completely under our control—I presume in consequence of our habituation to use all instruments by the aid of the flexor muscles.

That this instrument possesses the other qualities of a perfect urethrotome as given above will be seen from the following description:—

It consists essentially of a jointed knife (A, Fig. 1), which can be projected from a sheath (B) to regulated distances. This is effected by pressure on the button (C, Figs. 1 and 2), which is continuous with the steel rod (E, Fig. 2), tightly fitting the tube (F), the end of this rod being the knife (a), and the rod being reduced and tempered for a short distance from the knife. The other blade (b) also runs into a fine tempered endpiece, which rests against the solid probe point either straight (H) or curved (H'), which screws on at o. The blades are withdrawn on removal of the pressure by the spring (K, Fig. 2). The extent of projection of the knives is regulated by the graduated wheel (L) turning on the screw (d), and held in place after setting to the required number (French guage) by the spring wedge (c). The whole tube (F) carrying the knives is only slotted for a short distance, and the steel rod is squared and fitted to a square box at the point (f, Fig. 2). To clean the instrument screw off H, turn the milled head (C) until the two parts of the rod which are united by a screw at k (Fig. 2) are separated. The anterior part of the rod with the blades can then be drawn out at the end (o). The spring box unscrews at m (Fig. 1).

Fig. 3 is the conducting bougie which can be screwed on at n (Fig. 1) in place of the probe point.

The tube carrying the knife-rod is only slotted for  $2\frac{1}{2}$  inches, and is thus rigid. The square socket at f (Fig. 2) prevents twisting of the knives. The instrument has been most satisfactorily made for me by Messrs. Hilliard & Son, Renfield Street, Glasgow.—(*Medical Press and Circular*, 2nd March, 1887.)

## Books, Pamphlets, &amp;c., Received.

Pilocereus Senilis and other Papers. By Walter Moxon, M.D. London: Sampson, Low, Marston, Searle, & Rivington. 1887.

A Treatise on Diseases of the Skin, with Special Reference to their Diagnosis and Treatment, including an Analysis of 11,000 Consecutive Cases. By T. M'Call Anderson, M.D. With Plates and numerous Illustrations. London: Chas. Griffin & Co. 1887.

The Practitioners' Handbook of Treatment. By J. Milner Fothergill, M.D. Third Edition, enlarged. London: Macmillan & Co. 1887.

Griffith's Materia Medica and Pharmacy. Third Edition. Edited and in part written by Alfred S. Gubb, L.R.C.P. London: Baillière, Tindall & Cox. 1887.

On Overwork and Premature Mental Decay: its Treatment. By C. H. F. Routh, M.D. Fourth Edition. London: Baillière Tindall & Cox. 1886.

On the Diagnosis of Diseases of the Brain, Spinal Cord, and Senses. By C. W. Suckling, M.D. With Illustrations. London: H. K. Lewis. 1887.

Ligaments, their Nature and Morphology. By John Bland Sutton. London: H. K. Lewis. 1887.

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars for the year 1885. London: H. K. Lewis. 1887.

The Lettsomian Lectures on Bronchial Asthma. By John C. Thorowgood, M.D., F.R.C.P. Third Edition. London: Baillière, Tindall & Cox. 1887.

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ORIGINAL ARTICLES.

LECTURES ON THE DISEASES CLASSIFIED AS  
TABES MESENTERICA.

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(Continued from page 261.)

LECTURE III.—DIAGNOSIS AND PROGNOSIS.\*

FOUNDING on the facts which I have already submitted to you, I think we are fairly justified in affirming, that while the existence of "tabes mesenterica" as a distinct nosological type—*i. e.*, as characterised by disease chiefly or exclusively of the mesenteric glands—can hardly be maintained, there is, nevertheless, a definite group of diseases corresponding in general, clinically, with the suggestion of the popular name "carreau"—viz., that the dense resistance of the abdomen as well as its fulness, and the alterations to percussion as well as to palpation, are characteristic of something more than merely flatulent distension. Structural changes of some kind are undoubtedly present in these cases. In not a few of them the physical alterations in the abdomen render it very probable, and in some quite certain, that fluid effusion is present at certain stages of the disease; in others, this evidence is wanting; the disease, so far as observed, has not

\* As a matter of convenience, it has been found expedient to postpone some of the observations of detail prefixed to this lecture, to be read in connection with an appendix of cases at the end of the course.—W. T. G.

been characterised by a stage of fluid effusion. But even in these cases, or some of them, it is necessarily open to doubt whether such a stage may not have preceded the first actual careful observation. Cases every now and then occur in which it is perfectly certain, from the history and symptoms actually observed, that patients in this disease may pass through the stage of fluid effusion without considerable suffering; and accordingly, unless the mere bulk of the abdomen is such as to bring such cases under medical observation, they may easily escape notice. In some cases, again, where the amount of the fluid is moderate or small, and where it is so disposed as not to gravitate, or rather where the intestines are so disposed as not to levitate, fluctuation also being absent or not definably present, questions of the utmost difficulty arise; and he would be a very rash diagnostician who should pretend to a clear opinion in all such cases as to the precise nature of the changes entering into the abdominal swelling. All that can be fairly stated as matter of evidence in many of these cases is, that there are structural changes of such a kind as to intercept the normal intestinal percussion note; from which it is reasonable to infer that the intestines are, in some way or other, withdrawn from the anterior abdominal wall under circumstances when, if the parts had not been thus altered, they would certainly have given a tympanitic note. But as pathological anatomy and clinical observation concur in teaching us that in many of these cases the structural changes are in the peritoneum rather than in the mesenteric glands, and that, even when these latter are affected, the former is apt to be equally or more affected, the diagnosis which is on the whole safest *a priori* in any individual case is also that which most frequently concurs with the physical conditions observed in the majority of cases—namely, thickening of the peritoneum, with or without the effusion of fluid. Cases will occur, no doubt, in which any attempt at precise diagnosis will occasionally give rise to error. An omental tumour, as in the case of C. F. (see Lecture I), may be mistaken for glandular enlargement in the mesentery; or, *vice versa*, the latter for the former; but in the majority of cases, when the resistance is great, when the dull percussion extends over the greater part of the umbilical region, and when, notwithstanding this, there is no evidence of very large fluid effusion actually present, although there may have been such effusion at an earlier stage, the probabilities are greatly in favour of chronic peritonitis, whatever may be the symptoms, or whatever may be the accessories tending to

show the tubercular or scrofulous constitution of the child. In by far the greater number of such cases, the facts are such as to corroborate this diagnosis; and, as regards fatal cases, almost every one is aware of the opinion, entertained since the time of Louis, that chronic peritonitis is always tubercular. This opinion, it is true, has been brought into question; but it still holds the field in many of the best informed text-books, especially as regards young subjects, excluding, of course, from consideration cases of circumscribed peritonitis, such as occur when adhesions are formed over the liver, spleen, or at some particular point in connection with morbid alterations in the viscera of the abdomen. Bauer,\* who has treated the whole subject of diseases of the peritoneum in a very comprehensive manner, refers to Toulmouche (*Gazette Médicale*, 1842) and Galvagni (*Rivista Clinica di Bologna*, 1869) as two of the most trustworthy authorities on the subject of chronic non-tubercular peritonitis; and he further details two cases from the late Professor Lindwurm's clinique in Munich. He recognises three forms:—1st, A chronic stage, supervening on an attack of general acute peritonitis; 2nd, Chronic peritonitis, arising in the course of old-standing ascites; 3rd, More or less copious effusion, latent as regards its origin, so that the commencement of the attack can scarcely be defined. This last form he regards as very rare, so much so that its existence has been altogether denied by medical men of experience. One case, however, given in illustration, is completely demonstrated by the fatal result and *post-mortem* examination—an attack of small-pox having carried off the patient while under treatment in hospital. In this case, the large amount of effusion found was nearly serous; but nothing is stated in detail as regards the physical signs during life, except that there was increasing distension of the abdomen, "with a considerable quantity of very movable fluid and slight tenderness on pressure" (p. 298). It is sufficiently evident that in cases of recovery it would be quite impossible to distinguish this

\* Ziemssen's *Cyclopaedia*, vol. viii, p. 292, on "Chronic Diffuse Peritonitis." He deals with the opinion above referred to as follows:—"Louis, notwithstanding his valuable work, has brought a certain amount of confusion into the subject by making the statement that every case of chronic peritonitis is tubercular. Up to the present day the effect of the statement has not been altogether eradicated; and hence the existence of a primarily chronic simple peritonitis is by some observers entirely called in question." He admits, however (p. 300), that "the diagnosis of chronic non-tubercular peritonitis is very difficult;" from which it may fairly be inferred that in cases not fatal, or ending in complete recovery, the diagnosis may often remain impossible."

variety of chronic non-tubercular peritonitis from ascites, and scarcely less difficult, unless from the mere fact of recovery, to distinguish it from the much more common, or at least more commonly fatal, tubercular peritonitis. The apparently exhaustive analysis of the facts in Bauer's memoir justifies both of these assertions; but I will not detain you by going into details. Practically, it might almost be held that cases of apparent ascites which get well are more likely than not to have been cases of this form of chronic peritonitis. And this would hold especially of infantile cases in which, according to Galvagni, chronic peritonitis, with mainly serous effusion, has a rather favourable prognosis; while, on the other hand, true ascites, as we have seen (arising from portal obstruction), is both extremely rare and very unlikely to end in recovery. As regards tubercular peritonitis, its gloomy prognosis, as described in systematic works, is notorious. There is scarcely a single exception, among the successors of Louis, to the statement that such cases are all but invariably fatal; and, perhaps, the only isolated fact tending in the opposite direction, which can be appealed to as of the nature of a demonstration, is one that has been now repeatedly referred to, having been in the first instance, I believe, set forth in this connection by my colleague, Professor M'Call Anderson, in a lecture on the subject.\* This was a patient of Sir Spencer Wells, aged 22, in whom a small incision was made below the umbilicus for the surgical relief of what was supposed to be a "thin non-adherent unilocular ovarian cyst." "On opening the peritoneum," we read, "a large quantity of opalescent fluid escaped, and then the whole of the peritoneum was seen to be studded with myriads of tubercles." "Some coils of small intestine were floating; but the great mass was bound down with the colon and omentum, all nodulated by tubercle, towards the back and upper part of the abdomen. The uterus and ovaries were felt to be of the normal size, but their peritoneal coat was very rough."† The singular importance of this case can scarcely be denied, whatever doubts may be entertained as to its true pathology. A sceptical inquirer, indisposed to admit the cure of tubercular peritonitis, will, of course, demur to accepting an isolated case like this, in the absence of a thorough investigation as to the precise nature of the morbid deposit in the peritoneum; a follower of Koch would natur-

\* "On the Curability of Attacks of Tubercular Peritonitis and Acute Phthisis" (1877), p. 14.

† *Diseases of the Ovaries* (1872), p. 135.

ally demand at least one *instantia crucis*, wherein the tubercular bacillus shall have been shown to have been present in the fluid. Be this as it may, the fact remains that a condition of the peritoneum evidently attended with very appreciable thickening, binding down the mass of the intestines with the colon and omentum, in the midst of a large effusion of opalescent fluid—chronic peritonitis, in short, of the most typical kind, and attended with all or most of the unfavourable local conditions found in cases of tubercular peritonitis—was not inconsistent with an apparently good recovery. This patient not only so recovered, but we are told by Sir Spencer Wells that she afterwards married.

My own observations for many years before this had led me to believe in the occasional permanent recovery from tubercular, or at least chronic, peritonitis. It was, however, exceedingly difficult to place the facts of such cases in a point of view such as not to be open to challenge. I have remarked to you, in last lecture, that pathological anatomy, from its very nature, teaches us but one side of the case. At all events, it teaches us the fatal prognosis of such cases with such an overwhelming number and variety of instances, that, as I have said, the pathological mind receives an inevitable bias thereby. The purely clinical observer, on the other hand, is hampered in his inquiries by the fact that in cases which apparently recover he is rarely, if ever, able to adduce unexceptionable evidence as to the nature of the lesion. And in connection with this there is yet another difficulty, in the case particularly of very young children—namely, that unless through the microscopic evidence of the tubercular bacillus, the line even of anatomical demarcation between tubercular and non-tubercular lesions is very far from being strictly defined. In the so-called catarrhal pneumonia, for instance, especially when it occurs in the apices, and when it tends to lobular condensation, and to what I have elsewhere called bronchial abscesses, these often undergo caseation, and are accompanied by glandular enlargements; and under such circumstances it may well be (apart from the bacillus) absolutely impossible to define what is tubercular and what is not. Even in very much older subjects, before Koch's discovery, I have again and again seen cases in which the recognition of tubercular lesions in the dead body was only a matter of inference, and, in some of them, of doubtful inference. It is well known, moreover, that pathologists so generally accurate, so advanced in theory, and so well versed in microscopic morphology as Cohnheim, have entirely repudi-

ated morphological tests as not being final, and have argued that the only perfectly unexceptionable method of demonstrating the tubercular character of a lesion is by inoculation, under selected conditions, in a living animal.

Notwithstanding these grounds for scepticism, I have for many years held that tubercular peritonitis, speaking of it as including, if not accurately corresponding with, chronic peritonitis generally, ought not to be regarded as having the gloomy prognosis commonly assigned to it; or at all events, that cases which are clinically undistinguishable from tubercular peritonitis do get well, or apparently well. A statement of this kind must necessarily be made with reservations, but it appears to me to follow, as a necessary corollary from facts observed at different times over a long series of years under the following heads:—

1. Cases manifestly tubercular—*i. e.*, with what are usually considered tubercular lesions in more than one organ or part, and often also with hereditary antecedents pointing in the same direction, in whom abdominal affections, characterised by all the signs of chronic peritonitis, have undergone apparent cure for the time being.

2. Cases similar in all respects, in which a variety of tubercular lesions in various organs associated with chronic peritonitis have resulted in death; but the death has not been from the peritonitis, but in the ordinary course of pulmonary or of cerebral tubercle.

3. Cases of this kind, in which the progress of chronic peritonitis has been carefully watched during life, its symptoms passing into abeyance for a longer or shorter period, while the progress of other lesions was equally watched over a period of months or years, and in one or two instances the previous existence of old tubercular peritonitis was established on a *post-mortem* examination.

From such facts, it has appeared to me not unreasonable to infer that tubercular peritonitis, or some disease clinically very exactly resembling it, may occasionally undergo a practically complete cure, and may also, not unfrequently, undergo temporary or partial improvement to such an extent as to form an apparent cure. The cases which I have narrated to you, already published in the *Medical Times and Gazette*,\* and all occurring in the course of one summer and autumn

\* See, also, a very interesting lecture by Dr. Gee (*Lancet*, 1st January, 1881), which only became known to me after the cases here referred to had been published; and, indeed, since the present course of lectures was delivered.

in the Western Infirmary, are more or less illustrative of all these positions; and, but that I am unwilling to weary you, I could adduce a number of additional instances. At the same time, I feel bound to admit that there is still a *hiatus* in our knowledge of the subject; and this *hiatus* will not be filled up until pathological anatomy shall have completed the other aspect of its own biased information, by showing us, in detail, what are the changes undergone by cases of the kind referred to, in their progress towards healing. One case, such as that of Sir Spencer Wells, if submitted to *post-mortem* examination, the patient having died at a remote period, from some other cause than peritoneal tubercle, would probably do much towards solving the difficulty.

In speaking of peritonitis of pelvic origin, I have alluded to the apparently extraordinary character of the recoveries frequently observed in the puerperal form of the disease. One case in particular (*Medical Times and Gazette*, 5th July, 1884, p. 5), observed and placed on record both by Dr. Matthews Duncan and myself, showed that an abdominal infiltration, perimetric in origin, but causing dense impaction with dull percussion of the whole abdomen from the umbilicus to the hypogastrium and flanks, accompanied, moreover, by fever extending over many weeks continuously, and closely resembling, in some of its characters, sub-acute tubercular fever, was followed in the end by a recovery so complete as to allow, not only of life being prolonged and health maintained for years, but also of renewed child bearing. I do not maintain this to be a tubercular case, being, indeed, strongly persuaded of the contrary; but as regards the local changes, and looking to the remarkably complete resolution implied in the restoration of function above alluded to, the case may well take rank among the marvels of clinical experience, even although we may be compelled to admit that its pathological record has not been completely worked out, and is even, to a certain extent, inexplicable. In some such category I have been accustomed to place the clinical evidence, to my mind unassailable in fact, as to the cure, or apparent cure, of chronic, and even of tubercular, peritonitis.

As to the cure of mesenteric glandular disease, there is, even from the pathological point of view, no reason to doubt. The conversion of caseous and scrofulous glands into masses of calcareous deposit is so well established as to require no further proof. The only question is how far the detriment to function, in any particular case, may be inconsistent with adequate nutrition, and therefore with prolonged life. On

this point, it seems only necessary to remark that large masses of these glands in the mesentery, converted completely into a calcareous condition such as I show you here, not only demonstrate the healing process pathologically, but indicate that in some way or other there is compensation for the loss of function, whereby alone life could have been prolonged so as to permit of the retrograde metamorphosis necessary for pathological healing. I shall, therefore, have no hesitation in assuming that *tabes mesenterica*, in every aspect of it, is susceptible of curative processes, the precise nature of which may be admitted to be imperfectly known; and, on this assumption, I shall treat, in my concluding lecture, of the preventive, hygienic, and curative treatment of this disease.

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## THE OBSTETRICAL AND GYNÆCOLOGICAL CLIN- IQUES OF VIENNA AND BERLIN.

By GEORGE HALKET, M.D.

(*Read before the Obstetrical and Gynæcological Society,  
26th January, 1887.*)

MR. PRESIDENT AND GENTLEMEN,—My purpose in this paper is to give a short account of the Obstetrical and Gynæcological Cliniques of Vienna and Berlin.

It is becoming very common now-a-days, and particularly in large cities, for medical men to devote special attention to some particular branch of their profession, without going so far as to claim the name of specialists; and there is no branch of the profession which has been getting more attention paid to it than that with which we, as a Society, are more immediately concerned. The reason for that is very plain. We have all to make our living by our practice, and our success in practice depends, to a large extent at least, on our success in the practice of midwifery.

It was impressed on me, when I began practice, to endeavour to establish a midwifery practice; but I found, as my midwifery practice increased, that a new class of cases turned up, intimately connected with obstetrics, many of which cases I did not feel myself qualified to treat; and I soon found that if I wished to keep my midwifery practice together, I would require to increase my knowledge of what is commonly called the diseases of women.

When I was a student, the term gynæcology was not so

often heard as it is now; and students at that time had not the same opportunities for studying the subject clinically as they now have. I therefore made up my mind, in the spring of 1884, to spend six weeks at the Hospital of Vienna, and to pick up as much information on the subject as I could in that time. I chose Vienna, because the system of what might be termed special and private cliniques is carried out to a greater extent in the hospitals of that city than in any other hospital in the world.

I found, however, very great difficulty in getting accurate information regarding the working of these cliniques, the time when the courses commenced, how long they lasted, the cost, &c.; and when in Vienna, I met a medical man who had come a much greater distance than I had, and for the same purpose, who was leaving in disgust, because things were not as he expected.

I was fortunate, in Vienna, in making the acquaintance of Dr. Robert S. Thomson, to whose kindness and assistance I felt myself much indebted, and who put me in the way of getting what classes I desired.

It is therefore to give some information on the working of these cliniques that I have chosen this as the subject of my paper to-night.

The principal teachers of obstetrics and gynæcology at that time were Professors Braun and Spœth, Drs. Bandl, Heitzman, and Pawlik. In addition to these were several private teachers in connection with the university, and also the assistants in the hospital, men of large experience and long training. Braun and Spœth do not conduct private classes, but the others do; and those carried on by Pawlik, Bandl, and Heitzman are, as a rule, all taken up some considerable time before their courses begin.

Most of the private cliniques are limited to a certain number of students; some are limited to four, others to six, eight, and so on; and they extend from four to six weeks, meeting, as a rule, three times a week.

There is no common date for the beginning of these classes; each teacher fixing his own date, and intimating the time and place of meeting by notices placed in the courts of the hospital. They are carried on from the months of October till July, and as one course ends a new one begins. With these few general remarks, I will describe in detail the cliniques I attended.

Dr. Carl Braun's clinique is a very large one, and is attended principally by the medical students in connection with the

university, although it is open to others. The first day I attended he performed the operation of ovariotomy in presence of his class, which numbered nearly two hundred. He was assisted by his two principal assistants, Pritzl and Erlach, and five junior assistants, who were all dressed alike with white aprons and jackets, and by three nurses. The arrangements partook somewhat of the nature of a ceremony. Everything was ready, the assistants and nurses were at their places, the patient was on the table, with the chloroformist standing at her side, and all were waiting for the entrance of what might justly have been termed the master of ceremonies.

On his appearance, the students rose in a body to receive him and the administration of chloroform was immediately begun. Dr. Braun took a seat at the right side of the patient, and before the operation began, made a note of the time. During the whole time the operation lasted, which was thirty-five minutes, Dr. Braun never once left his seat, and never had to ask for anything, everything he wanted seemed to be anticipated, each assistant having his own particular duties to perform. The operation went with a smoothness and regularity which nothing could exceed, and was loudly applauded by the students at the end.

The next operation I saw him do was one which, though skilfully and carefully performed, did not give me so much satisfaction. This was the induction of premature labour on a woman at the end of the eighth month of pregnancy, in whose case craniotomy had been performed at her previous confinement. The child in utero was lying in a transverse position, and turning had to be performed. The patient was placed on her back on the table with her face looking toward the students, and what surprised me very much was that chloroform was not given, although the operation was both a tedious and painful one.

Braun inserted his left hand into the vagina, and gradually dilated the os with his fingers. He then ruptured the membranes and brought down a foot. To show the child was alive, and also to illustrate reflex action, he tickled the sole of the child's foot, and immediately the foot was drawn back amidst the laughter of the students. To show there was no deception, he tickled the foot a second time, and once more the foot was drawn back amidst the unbounded merriment of the whole class. It was no doubt very amusing, but I could not help thinking that some consideration might have been shown for the feelings of the poor woman who was lying on the table. The patient was then removed into the ward, and

labour allowed to go on ; but it was no laughing matter when, three hours afterwards, a child was brought into the world, in which no amount of tickling of the feet, nor any other means could produce one single sign of life.

Whatever Dr. Braun illustrates, he illustrates in a very thorough and exhaustive manner. One day the subject before the class was the congenital malformations of children, such as hare-lip, cleft palate, club foot, &c. After he had described these malformations, half-a-dozen nurses entered the theatre, each carrying in her arms a recently born infant more or less deformed, and these infants were handed round from bench to bench, and from student to student, as we would pass round a surgical instrument or a pathological specimen.

Perhaps the most instructive, as it certainly was the most enjoyable class I had was Pawlik's. Pawlik is a man about forty-five years of age, exceedingly handsome in appearance ; and he talks English as fluently as any Englishman. He is very popular with his patients, to whom his manner is not only affable, but borders on the affectionate.

This class generally consists of six students, but on this occasion it was confined to four—the four combining together to pay the fees of six. Of these four, three were Glasgow men ; the fourth was an American. I was enabled to join this class through the kindness of Dr. Thomson, who had already had a course with Dr. Pawlik, and was taking a second, and who very kindly retired in my favour.

The course lasted one month, the class meeting three times each week, and generally lasting three hours each day. With plenty of what they call material, and with plenty of time, and only four of us round the patient, we had every opportunity of thoroughly examining every case.

There was an entire absence of the pushing or crowding round the patient that I observed in other and larger classes, and every one was allowed to take his own time.

While undergoing examination, the women always lay on their back ; and as the table had two projections to receive the patient's feet, the examiner could stand right in front of, and quite close to the patient.

The treatment of most of the cases was carried out by the students, under the supervision of Dr. Pawlik, such as, for example, the introduction of the sound and speculum, the insertion of a pessary, the application of caustics to the cervix or interior of the uterus, scarifying the cervix, the application of leeches to the cervix, &c. The cases we saw were very varied, and many of them very interesting ; and

many of the patients had come a very long distance to be under Pawlik's treatment.

I believe all the women who came to this clinique were *bona fide* patients; but I could not say the same of another gynaecological class I had—Schlesinger's, where the same women returned week after week, simply for the purpose of examination, nothing whatever in many cases being done in the way of treatment.

I beg to show you the principal instruments used by Pawlik in his clinique. There are the specula he invariably uses, the series of cervix dilators, the dressing forceps, which he also uses for the extraction of small polypi, and an instrument called the Röhre, with which he applies nitrate of silver to the interior of the uterus. Very slender sticks of the nitrate are inserted into the instrument, which is perforated, and the instrument is then introduced into the uterus; the mucus of the uterus comes in contact with the caustic through the perforations; and thus a solution of nitrate of silver is brought into contact with the uterine walls.

The next class I have to describe is that of Dr. Pritzl. Pritzl is chief assistant to Prof. Braun, and his class was for the demonstration and practice on the dead body, and on the phantom, of the different operations of midwifery. The class was a pretty large one—about two dozen, and comprised students of several nationalities, but I was the only English speaking student amongst them. It was a sort of free and easy class, teacher and students alike smoking when they were not operating.

The dead body of a woman was lying on the table, the abdominal organs removed, and the dead body of a child inserted into the abdominal cavity, the head being placed in the pelvis. A sheet was then thrown over the body. The first operation was the application of the forceps. The student examined by the vagina, to find out in which position the head of the child was lying, and then applied the forceps. In every case particular attention was paid to the rotation of the head, and to the direction in which force was to be applied while the head was coming over the perineum. Every student was asked to apply the forceps, Dr. Pritzl changing the position of the child's head from time to time.

The next operation was that of craniotomy, and the instruments used were those of Carl Braun. They consist of two instruments—the perforating trephane and the cranioclast or extracting forceps. With the trephane a circular piece of skull is removed, through which the brain matter is scooped; then

one blade of the forceps is inserted into this opening, and the other to the outside of the skull; and these two blades are brought close together by means of the screw at the end of the handles. The head is then extracted.

This operation was also performed by the whole class; and while it was a very easy matter to do it on the dead body, with a roomy pelvis, it was quite a different matter doing it on the living body.

I saw Pritzl do it in the wards one Sabbath day, in presence of a large number of students. The trephining part of the operation was done all right; the forceps were applied, and extraction attempted, but in vain. After several attempts he succeeded in tearing away a small piece of the skull; and, on reapplying the forceps, succeeded no better. This occurred again and again, and eventually the woman was delivered by turning, the operation having lasted two hours. I never learned how it fared with the patient. I asked for her the next day, but was told she was as well as could be expected.

The next operation was that of decapitation, the instrument used being a blunt hook. This was introduced, and placed over the child's neck; the point was inserted into the neck, and by means of rotating the instrument from right to left, the soft parts and the vertebrae were crushed through. The trunk of the child was then extracted by pulling down the arm; and the head removed either with the hand or by means of the forceps. An operation such as this, to be performed by a large class, requires plenty of material in the shape of dead babies; and on one occasion I had the curiosity to count the number of dead babies in the room, and I counted eleven. And when the headless trunks were lying on the floor after the operation, the sight was not a very pleasant one.

The management of breech and upper and lower limb presentations, together with the bipolar method of turning, were practised and illustrated by means of the phantom; and I got some useful hints from this part of the course, particularly in regard to the management of breech presentations.

As you are aware, women, on the Continent, are confined lying on their back. When the breech and back are born, and the back of the child upwards, the legs of the child are carried well over the mother's left thigh; this has the effect of bringing down the child's left shoulder, and it is then an easy matter to relieve the left arm. That being done, the child's

legs are carried over the mother's right thigh; this brings down the right shoulder and then the right arm.

I have tried this method in all the breech cases I have had since, and I find I can relieve the child's arms much easier, and with less pain to the mother, than I could do when the mother was lying on her left side.

Dr. Pritzl does not speak any English, but as the work of the class was principally of a practical nature, one does not require to have an intimate knowledge of German to be able thoroughly to appreciate it.

Most students of obstetrics take what is called a touch course (*Touchir Curs*), which consists in making diagnosis in the case of pregnant and parturient women. The class I had consisted of three—two surgeons-major from India and myself—and was conducted by Dr. Erlach, one of Prof. Braun's assistants. The course lasted one month, meeting three times weekly.

Each day four women were set apart for examination. The *modus operandi* was, first of all, to examine externally, to find out where the foetal heart-sounds were best heard, and to find out the position of the child from palpation, the head, breech, and limbs of the child being successively made out; then the external measurements of the pelvis were made with the pelvimeter.

German teachers recognise only two positions in midwifery: the first, where the face of the child is towards the mother's right side, its back being towards her left side; and the second, where the child's face is towards the mother's left side, and its back towards her right. Their first position thus corresponds to our first and fourth, and their second to our second and third.

When the sounds of the foetal heart are best heard on the mother's left side, the child is in the first position; when they are best heard on the right side, then the child is in the second position. Knowledge of this fact might sometimes be of service to us in diagnosing the exact position of the child's head—for example, if the foetal heart sounds are best heard on the mother's left side, then the position is either first or fourth; if on the right side, then either second or third; and a vaginal examination would readily complete the diagnosis.

Before examining internally, we had very carefully to cleanse our hands, washing them first in a weak solution of Condy's fluid and afterwards in a solution of carbolic acid. If by any means we removed our hand from the vagina, and

laid it on any external part, we had to go through the same disinfecting process before further examining. By the vaginal examination we found the condition of the os and cervix. If the os were open, we made out the presenting part, and if that were the head, then its position by means of the sutures and fontanelles. This being done, we were then told to find the conjugate diameter of the pelvis by endeavouring to touch the promontory of the sacrum.

This mode of examination must have caused a great amount of pain as well as annoyance to the patients, but they all submitted to it as a matter of course, and without any grumbling. Erlach was most anxious that, when examining women in labour, we should on no account rupture the membranes. Unfortunately, on one occasion, the membranes were ruptured, and Erlach nearly broke his heart. When asked if that would in any way interfere with the progress of labour, he said, "No, but it would give more pain to the patient." The pain and discomfort of examining them, however, seemed to give him no concern.

I have not the slightest idea how many children are born in one year within the walls of the hospital, but I never entered the confinement ward but some cases were going on, and on one occasion I saw eight going on at the same time, and all in view of each other. Even when obstetrical operations are performed, such as applying the forceps, turning, or sewing a ruptured perineum, they never think of screening the patient in any way from the view of the others.

Very great attention is paid to the perineum, and in many cases of partial rupture, where we would never think of interfering surgically, they operate. I did not see Cæsarian section performed, but a woman was presented for examination at this clinique on whom that operation had been done some time previously.

The cost of each class or course was £2 of our money, with the exception of the touch course which was £5. I often wondered whether any of that money went to the subjects of examination, but I rather think not.

For one who has only a few weeks to spend, the month of May would be the best, as it is the beginning of the summer session, and one of the most pleasant months of the year. But I would advise any one whose time was limited to make some arrangements as regards his classes before leaving this country, and not to go there trusting to chance. It would be advisable to write to Bandl and Pawlik to ascertain when their courses commence, and whether they had vacancies. That being

settled it would be an easy matter to fill up one's time with other courses arranged on the spot. With the exception of Pawlik's, all the courses were carried on in German; but as most of the teachers have some knowledge of English, with a little German one can get on pretty well.

Vienna is a very enjoyable place to live in; living is much cheaper than in this country; and I believe the whole thing could be done, travelling expenses, fees, and residence for one month, for £40.

As this part of my subject has taken so long, I will confine what I have to say about Berlin to a very few minutes. The system of special and private cliniques is not carried out to the same extent in Berlin as in Vienna. No doubt of late years an attempt has been made to follow the example of Vienna, but the success has not been very great. The cliniques there are much larger; and, unlike Vienna, are scattered all over the city. The principal teachers of Gynaecology in Berlin are Schröder and Gusserow, the former teaching in the Imperial Hospital for Diseases of Women, the latter in the Charité.

I had the advantage of a personal introduction to Schröder. Unfortunately, I could not understand Dr. Schröder's English, and Dr. Schröder could not very well understand my German; but through my friend he invited me to attend his clinique while in Berlin, and asked me to call at half-past eight the following morning and he would conduct me through his wards. Dr. Schröder's class meets every morning at nine o'clock. The class, which numbered about two hundred, meets first of all in what is called the auditorium, where the pathological specimens are examined and explained; that over, the students go up stairs to the theatre, where the patients are examined. On every occasion in which I was present the patient was in the theatre, and under the influence of chloroform, before the entrance of the students; and she was kept under chloroform during the whole time of the demonstration. Schröder's method of conducting the class is to select four of the students who go down to the floor of the theatre. From these four he further selects one, who makes the examination, who answers all the questions, and to whom Schröder addresses all his remarks. Schröder does not address the class directly, but through the student who is under examination. He talks in a very forcible and impressive manner, and is closely followed by the whole class.

I was very much pleased with Schröder's midwifery wards. Unlike Braun's in Vienna, where there is one very large ward

and two or three side rooms, Schröder has a number of small wards. In the confinement wards there are only three beds, not placed along the wall as we are in the habit of seeing them, but in the centre of the ward, each bed being separated by some little distance from the others. At the foot of each bed, and attached to it, there is a writing desk, where notes of each case are made.

The recovery wards are similarly arranged—each ward containing four beds, situated in the centre of the ward, and each bed having at its foot a small separate bed for the infant. The appearance of these wards clearly showed that everything possible was done for the comfort and health of the patients. Before I left Berlin I was presented with a photograph of Schröder by one of his admirers, and, as it is a very good likeness, if you care to look at it I will hand it round.

Gusserow's clinique at the Charité is held in the afternoon, and is about as large as Schröder's. The method of conducting it is somewhat similar—with perhaps this exception—that the patients were not under chloroform, that more of them were presented for examination, and that after each demonstration all the students were allowed to examine—but not manually.

For practical purposes, a visit to the Vienna Medical School would be of much more benefit than a visit to that of Berlin; although, in the latter, some of the classes are better conducted than in Vienna.

Still, one cannot but admit some feeling of humiliation at medical men in this country, and in America, having to go such a great distance, and at some considerable expense, and often to the injury of their practice, when they know that the subject could be as well taught at home. People say we have not got the material, and that women in this country would not submit to the treatment they receive in Germany; but to the first objection I would ask, "Is the material that we do have sufficiently utilised for teaching purposes?" And to the other objection I would answer that the subject could be taught without the same amount of exposure and discomfort to the patient that we see on the Continent.

I am glad to see that post-graduate classes, and other special cliniques, are being formed in this country, and in our own city; and I would end this paper by expressing the hope, that the time is not very far distant when medical men in this country, who are wishful to keep abreast of the times, will be able to get all the instruction they require nearer their own doors.

## ON RETROFLEXION OF THE UTERUS.

By MURDOCH CAMERON, M.D., F.F.P.S.G.,

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Accoucheur to the Western Infirmary.*(Read before the Glasgow Obstetrical and Gynaecological Society.)*

WHEN I consider that by far the greater number of patients who attend for advice on uterine complaints suffer from retroflexion and its various effects on the system, I need offer no apology for bringing this very important subject under your notice for discussion.

In anteflexion the emptying and filling of the bladder oppose flexion, but in retroflexion there is no such preventive, and the fundus, once turned backwards, gets pressed down by the bowels until it can be easily detected as a round body behind the cervix.

The ligaments are stretched and the vaginal walls relaxed, whilst the vagina itself is more or less perpendicular and parallel with the symphysis. The point of flexion is not usually acute, but forms more of a right angle, the fundus being proportionally deeper than in anteflexion. In some cases the cervix is found to rise upwards, undergoing a sort of compensatory movement, but this is only possible with relaxed vaginal walls. If this movement is prevented by fixity in the vagina, a more acute flexion naturally results.

Whilst retroflexion is found to exist in some persons without any symptoms arising therefrom, as seen especially in aged women, usually the occurrence of flexion involves a series of dangers, and may even act upon the uterus in such a way as to produce various pathological changes.

Hyperæmia is at times so well marked that, with the finger in the posterior and upper region of the vagina, one can press as in oedema, and trace changes due to disturbance of the circulation or to chronic metritis. If congestion of the fundus exists, the point of flexion becomes more atrophied. So much is this the case that the lower wall at the point of flexion may be found very thin, and the finger detects a very marked degree of retroflexion.

The upper surface is stretched, but is never so atrophied as the point of flexion on the lower wall. The pressure of the fundus often sets up peritonitis, which is at times the chief symptom, and thus arises the question whether the peritonitis or flexion first existed. Usually a healthy uterus lies in the

normal axis; but it may deviate, especially when its ligaments are much relaxed. If so, how much more will a diseased heavy uterus tend to do so? Some assert that the state of retroflexion is the result of a pre-existing version. Whilst admitting that many cases may so originate, yet there are cases where the retroflexion exists as a primary condition, and not only so, but cases are found of anteflexion alternating with retroflexion.

The relations of the neighbouring organs to the displaced uterus must be considered. The rectum will affect its position according as it is empty or loaded. If a full rectum projects from above downwards, it will necessarily displace the uterus somewhat to one side, especially if the case partakes more of a version. If there is marked retroflexion, so much the more will a loaded rectum increase the flexion. Each succeeding defecation will press the fundus downwards and forwards, and cause great suffering. Adhesive peritonitis is set up, and the uterus may become fixed in its false position. Should the patient guard against constipation she may escape such symptoms, but the retroflexion will still exist. Patients complain of pain as if a body was going to pass, a sensation similar to the pressure of the child's head in labour is experienced in extreme cases, and this results from the pressure of the fundus downwards. At times the bladder is also affected, through the marked tilting forwards and upwards of the cervix. The fundus may also compress one or push both ureters aside. Hildebrandt had a case where a ureter had dilated above the point of compression. Any pressure applied to this swelling caused a discharge of urine towards the bladder. The urethra may be dragged upon and so cause difficulty in voiding the urine as well as altering the direction of the stream. The anterior vaginal wall is not usually stretched, although I have met with a few cases where the finger could be passed along the anterior wall into the cervical cavity without meeting with any opposition where the anterior lip should have been. In many cases the cervix appears small, but on replacement of the organ it is felt to be well marked in size. On the other hand, marked cases of elongation of the anterior and posterior lip are found, with a wide cleft between.

The os is frequently gaping and colic is experienced in some such cases from the injection of fluid directly into the cavity of the uterus, owing to the nozzle of the tube having been placed within the patulous os. Again, any cicatrix on the anterior wall may produce retroflexion. Such cases are not

uncommon. I saw a very marked case of this in Professor Leishman's ward, where a patient was admitted for retroflexion. On examination a bridle was found extending from the anterior vaginal wall to the cervix. This was divided, with the result that the uterus sprung forward into its normal position.

The broad ligaments are found to deviate with flexion, and this necessarily has an influence upon the uterine vessels, not so much upon the arteries, these being too rigid to be endangered by any slight turning and stretching, as upon the relaxed veins.

The ovarian ligaments may become stretched, and allow the ovaries to follow the uterus somewhat, although it is not always found that the ligaments are relaxed. In some cases the ovaries are felt upon either side, somewhat higher, of normal size or enlarged, sensible to pressure or painless. This position results from the fact that the ovary has contracted adhesions above, which prevent it from falling with the fundus.

Again, you may have the ovary drawn nearer to the uterus from some inflammatory action on the walls of the uterus itself. If the ovary should lie between the uterus and the rectum, constipation might by pressure set up perioophoritis, and thus we may have symptoms referable to the position of the ovary. In one case recently under observation the whole complaint was due to pain arising from this cause.

Some stress has been placed upon the pressure of the fundus upon the large nerves as they lie in the posterior wall of the pelvic cavity, but this cannot take place as they leave the pelvis through the large sciatic foramen. Pain may result, however, from exudation the result of pressure, and also, the fundus may press upon the sympathetic nerve texture on the anterior and lower surface of the sacrum, and so give rise by reflex action to an abnormal sense of pain.

In nulliparæ the retroflexion is usually due to the relaxed state of the muscular tissue of the uterus. Several blame masturbation as the disturbing cause, whilst others blame the impotence of the husband. However, the data in such cases are not such as would justify a definite conclusion. It will be admitted that hyperæmia with excited desire may certainly bring about relaxation of the uterine tissue. In such cases where masturbation has been practised the vagina and external genitals have been found relaxed and very moist. In some of these cases the uterus is found to alter its position, at one time being anteflexed, then retroflexed, and so on. In

fact, there is no difficulty with such cases in changing the position of the organ with the fingers.

It will, therefore, be easily understood how such cases are easily affected by any mechanical influence, such as posture, constipation, or habitual distension of the bladder.

In the same way, menstrual congestion and distension of the bladder will correct an anteflexion, and will also prevent the organ from becoming fixed, but in retroflexion no such natural influence exists to push the body upwards. If the fundus is small there is less chance of an acute bend being formed, and whilst in multiparæ the lower wall is atrophied at the point of flexion, in these cases there is rather a stretching and thinning of the upper wall. Even in the uterus itself, there may be, in the existence of a thin and weak wall, an influence for producing a flexion. The longer a retroflexion exists, the less chance is there of its righting itself, more especially if constipation sets in, as then the faecal mass presses from above upon the fundus. The more resisting the abdominal walls and the more they oppose any distension of the bowels from faecal matter or gas, the greater will the impression on the fundus be, and the less chance of its coming forward again.

The longer the uterus lies retroflexed, the more it takes the new form, whilst the under wall especially becomes thickened, congested, and oedematous. The loaded rectum pushes the bended uterus forward, and so increasing the dysmenorrhœa, gives rise to disturbance in the circulation, and then follow peritonitis, adhesions, displacement, fixation of the ovaries, with constant retroflexion. Many cases, however, are met with in which no adhesions are found, and frequently the displacement results from a small interstitial myoma.

Menstruation in women who have borne children or who have aborted is very marked, especially in multiparæ. Here the uterus is in a state of subinvolution; the vessels remain distended, and allow much blood to escape. With this bleeding and the relaxed state of the uterine walls, the uterus loses its power of contraction. The sound passes easily, and the blood flows without the slightest difficulty or pain being experienced.

Often at the outset pain is felt in the supra-pubic and sacral regions. The flow continues from six to nine days, whilst the next period is often manifested by the sudden return of the bleeding. If the woman is anæmic, a period may pass without any flow, but the next time it returns with increased force. The periods become irregular. Patients who cannot rest complain bitterly of the flooding. In the night, or by taking

a horizontal position, the bleeding appears to cease; clots forming in the vagina act as a plug; but as soon as they rise the clots escape, and the bleeding begins afresh. If compelled to walk about during the day, the patient complains of the unceasing discharge of blood, which is at times brownish and foetid. I have been consulted by many poor women who complained of the blood running down their legs, and even leaving blood spots where they walked. As a consequence there soon results marked anaemia, the skin becomes waxy, and the patients feel as if they had no power left. Yet in this condition they are often compelled to go about doing work to secure a living for themselves and family.

The mucous membrane remains swollen and the cavity dilated. If the fundus lies deep, the secretion is allowed to accumulate in the cavity, and causes in some cases distension of the uterus. This secretion, if mixed with blood, soon becomes foetid, and may produce septic poisoning.

**CASE OF MRS. B., æt. 42.**—Began to menstruate when 13, and continued regular till marriage, nine years ago; since then she has been irregular and subject to a feeling of pain through the pelvis, with increasing weakness. Menstrual discharge irregular, profuse, and lasts eight days. She has never been pregnant. On examination the uterus was found strongly retroflexed. Sound passed  $3\frac{1}{2}$  inches, and on withdrawal was followed by a copious mucous discharge which had been accumulating in the distended fundus. Menstruated soon after. Discharge had a most offensive smell, and continued for a week. Used carbolic injections to kill the odour.

A Hodge pessary was introduced. Next period lasted only four days, when the discharge came away free of pain and without odour. At present patient feels well, and is improving in her health. On examination, the uterus and pessary remain in good condition.

Now, in such cases the passage of the sound is followed by a copious discharge of retained mucus. In some cases the uterus is so inert that the faulty introduction of an injection pipe or a strong stream of water may induce distension.

There are other important points connected with displacement. Can erosion and cervical catarrh be cured without replacement of the fundus, and, if not, why do so many cases of retroflexion exist without even a trace of erosion, and very little hypertrophy of the cervix? In many cases of newly formed flexion the tissue of the uterus is already oedematous, and this results from congestion. The uterus is heavy and thickened, and yet in a few days after replacement it is found

to have regained its normal condition. In such a case a badly placed pessary will set up pains and excite perimetritis. With the proper replacement, however, all feeling of discomfort disappears and the bleeding ceases, the patient menstruates without pain, the uterus contracts and remains in good position.

In time the case is cured, and the pessary can be removed. I have met with cases of women who had reached their 46th or 48th year, and who suffered so much from menorrhagia as to give rise to a suspicion of cancer. Yet these same cases, on having the displaced organ put in good position, have been immediately relieved, the bleeding disappeared, and the patients very soon regained their health.

One is accustomed with patients who are always complaining of indescribable pains. They feel "as if their inside was going to fall out;" they have "a constant desire to pass something from the bowels," and say "if it was gone they would be quite well." On coming down stairs, dancing, lifting any weight, standing a long time, or even driving over a rough road, the feeling is increased almost to pain. Very little exertion tires them out. These symptoms result from the pressure backwards of the fundus, from peritonitis, and from pressure on the fundus during defecation. The pains resulting from the rectum are often increased when the body of the uterus is large, and heavy or fixed. On making a vaginal examination one frequently feels, immediately above the region of the anus, a large mass of faecal matter, and above this the fundus, which is often fixed, and if pressed forwards gives rise to pain.

Patients with such displacements are inclined to rest, and sitting induces constipation. Defecation is painful, and therefore the patient avoids going to stool. As a result we have the rectum loaded with a dry, hard mass, which is only passed with the most excruciating pain, in a manner justifying the answer of an old maiden aunt to a niece near her confinement, when asked if the pains of labour would be hard to bear: "They canna be waur than extreme costiveness." Pain during the sudden occurrence of retroflexion is very marked, as the pelvic peritoneum has not yet adapted itself to the pressure, as is often the case later on. Sometimes perimetritis occasions great pain during defecation, especially if there be exudation.

The bladder seldom gives rise to any symptom, and this is especially so with old cases. It is free from pressure, and nothing hinders its distension. In fresh cases, however, the bladder is affected by this displacement. In some chronic

cases I have observed shortening of the anterior walls of the vagina, which is very marked by the stretching found on replacement of the organ. In retroflexion, with pregnancy, the most marked symptom is retention of urine.

Another organ which is much affected is the ovary. It may get pressed between the distended bowel and the fundus, but it is questionable if the normal ovary is very painful to the touch. If pain is felt I suspect it is peritoneal in character. When the displaced uterus is congested, the ovaries will likewise be affected. With replacement and relief of the uterus you will have diminution in the size of the ovaries as well.

Some patients complain of pains in various parts of the head, at times of hiccup and vomiting, and of fear, which they say arises from sensations over the heart. These have been cured by simple replacement of the organ. If there is any tendency to phthisis, the recognition of the displacement will be more important in order to prevent greater weakness.

*Diagnosis.*—It is scarcely needful for the recognition of retroflexion to make a bi-manual examination, as a digital examination should be sufficient to detect this displacement.

However, it is better to do so, when, if there should exist any other abnormality, it may be detected, as it may be of the highest importance in the treatment.

If one hand is placed in the hypogastric region, and two fingers of the other hand within the vagina, the cervix will be found directed forwards, or may even be detected close to the symphysis. Behind the cervix is felt the fundus, and the flexion immediately between the body and neck. If the fingers be pressed up in front of the cervix, they can be felt with the other hand, indicating that the uterus is absent, and that the swelling behind the cervix is the uterus and not an exudation. If the fingers are directed towards the fundus behind and pressure applied, it will give evidence of the presence or absence of pain, of the mobility of the uterus, and of the existence of adhesions. You detect if the uterus is heavy, or if any inflammatory state exists which would exclude further examination.

When the case is a simple one, we make out the position, form, and size of the organ. Passing two fingers, and rotating them so as to have the knuckles behind, they are pushed up behind the cervix, in order to press the fundus upwards. Still pressing with the middle finger, the forefinger is hooked round the cervix, and pulls it backwards. The more it brings the cervix backwards, the higher is the middle finger pushed. At

the same time the free hand is pushed from the region of the navel towards the promontory of the sacrum, and so getting behind the fundus presses it forwards. In some cases where the abdominal walls are not relaxed, very little aid can be given with the hand outside. If such movements can be effected, it indicates that, so far as practical purposes are concerned, there is no adhesion behind.

The case may, however, be complicated with acute or chronic peritonitis. If pain is experienced on examination, very careful pressure here and there with one finger will enable you to locate the seat of pain. Is the pain from a dislocated ovary? Then find out its size, and the amount of pain on pressure. At times a distinct swelling is felt at the side of the uterus, which is recognised from its history and character as due to a previous perimetritis.

When adhesions exist, the replacement of the organ is difficult and painful, as the stretched bands again pull it back into its faulty position.

Sometimes the uterus is found to be hypertrophied at various points. It is not necessary to pass the sound in most cases, unless to replace the organ or assist in diagnosing adhesions and the relations of the uterus to existing tumours. Usually little pain is experienced through the introduction and replacement with the sound. In introducing the sound in these cases, much aid is received from proper manipulation with the two fingers within the vagina. They not only act as a guide to the sound, but may, by pressure upwards behind, in a manner straighten the organ, and so permit the sound to pass the point of flexion easily.

If there be much difficulty, great assistance is got from the use of Sim's or Reid's speculum along with the vulsellum.

In a few cases the uterus is high up, the cervix normal, and yet with very careful examination the retroflexed fundus is detected. We have now seen that retroflexion may result from various causes, from arrested development, from unequal contractions in the uterine fibres after a confinement or an abortion, from an inflammation followed by a shrinking of the uterine or adjacent tissues, from a local peritonitis with shortening or adhesion of the peritoneal folds, from pressure exercised upon the uterus by a tumour, ovarian cyst, &c., from an increase in its long diameter, especially coinciding with thickening and unilateral hypertrophy, from an atrophy of the uterine tissue at the internal os, or any laxity or flexibility from whatever cause.

As regards treatment, patients come complaining of various

symptoms, it may be of a simple feeling of pressure, with backache, or of bleeding, and in some the symptoms are mainly hysterical. When a woman suffering from a displacement of the uterus presents symptoms of derangement, hysteria, &c., we are generally led to conclude that the origin of her complaint lies in the uterus.

Now, it is necessary to be careful in this, because, in most cases the troubles of innervation are positively looked upon as reflex phenomena of a uterine malady, whereas, in many instances there is great reason to suspect that it is the abnormally exaggerated susceptibility of the patient which is more likely to be the cause of a slight derangement of the uterus being felt so severely. The treatment, therefore, in these cases should be directed against such a state of body. In old standing cases there is frequently shrinking of the anterior wall of the vagina, and therefore, with replacement, and the introduction of a pessary, the patient complains of the disturbed state of the bladder. Such symptoms arising should not be lightly passed over. Great care is needed to select proper support to the replaced organ. The pessary does not replace the uterus, but only keeps it in position after the hand of the physician, with or without instrumental aid, has done so. If, instead of acting thus, the instrument is used as a lever to replace the organ, much injury may result. If any irritation should exist, it is better to leave it alone, or use at first a small ring pessary to give simple support, and afterwards a Hodge, Albert Smith, or Thomas pessary could be applied.

Several patients have consulted me a few weeks after their confinements regarding a feeling of pressure, which was increasing, although their own physician had assured them that it would pass away. On examination, the uterus was invariably found in a somewhat retroflexed state, which could be easily replaced with the fingers, but soon after returned to its old position. This indicates the necessity of a proper support. Experience is required to select a suitable pessary for each special case. Pessaries act by stretching the vagina. The upper end, above and behind the cervix, fixes it there unless the vaginal walls are very relaxed, whilst the intra-abdominal pressure acts upon the posterior surface of the replaced uterus, and tends to keep it antevected, as it were. This is more noticeable in some cases than in others. The size of the uterus is another factor in tending to keep the replaced fundus forwards. Should pain result from the pressure of the pessary, it must be removed at once.

If the instrument is a proper fit, the patients immediately acknowledge their great relief. Very soon the headaches, &c., disappear, and the strength returns. Concerning the length of time which a pessary should be worn, I may say that good results in my practice have followed the wearing of the pessary for only two or three months, in some cases of short duration, but it is quite otherwise where you have to deal with a long standing case, and where the vaginal walls are relaxed. The longer a patient wears the pessary without complaint, and the uterus retains its good position, the more likelihood is there of a cure. After pregnancy there is a possibility of the organ regaining its normal state.

In cases where the uterus falls back on the removal of a pessary which has been in position, say for months, is there any good to be got from reintroducing it? Surely. Because it retains the uterus in position, and so saves the patient from many painful, and at the same time dangerous symptoms.

Schultze treats these cases where reposition is impossible on account of adhesions, by dilating the os, and after introducing the finger into the fundus, hooks it forwards, whilst he grasps the uterus upon its posterior surface with the other hand, and attempts to stretch the adhesions. This appears violent treatment, and no doubt in a few cases would be highly dangerous, yet the adhesions are torn when pregnancy supervenes in such cases without bad results. A good pessary likewise causes stretching of these bands. Only slight traction should be applied, and when one remembers how freely the finger can be moved about within the uterus in treating abortion, little evil should result if carried out by a skilled hand. If the patient should be suffering from any acute symptoms, as pain, tenderness, rise of temperature, &c., it is unsafe to introduce a pessary, as such treatment would only increase the symptoms and make the patient worse. It is better to treat these cases by baths, injections, and therapeutic agents, than by mechanical interference. Scarification, tampons of medicated glycerine, &c., with hot water injections of 110°, do good. Where the os is patulous, special care is needed, as a strong stream, or the introduction of the tube within the os, would give rise to colic, and might even cause distension of the organ.

Erosion, stenosis, bleeding, &c., require special treatment.

As regards the treatment of retroflexion complicated with pregnancy, I have never failed to reduce it where the patient was under chloroform. Electricity has been used in cases

of retroflexion with varied results. Postural treatment is beneficial.

Shortening of the round ligaments has been taken up in this country as a speedy cure for retroflexion. This operation was first noticed by Alquié, of Montpellier, in 1840, but does not appear to have found much favour. It was detailed by Aran, Schultze, and others; and cases are on record where the operator failed, owing to the extreme atrophy of the ligaments, or through being unable to find them. Several successful cases have been recorded by Drs. Alexander and Adams, with the details of which most of you are familiar. Recently some feeling has been manifested regarding the claim of priority, and therewith the naming of the operation. A recent continental writer, who has followed the controversy, suggests that it should be called the Alquié-Aran-Deneffe-Soupart-Bourggroeve-Revington-Freund-Schultze-Alexander-Adams operation.

In conclusion, special warning should be given as to evils of tight lacing, and the patients cautioned against lifting weights, prolonged exertion, and straining.

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### CLINICAL MEMORANDA,

FROM THE MEDICAL SIDE OF THE OUT-PATIENT DEPARTMENT  
OF THE GLASGOW ROYAL INFIRMARY.

BY JOHN LINDSAY STEVEN, M.D.,  
Assistant Physician to the Hospital.

*(Read at the Southern Medical Society, 10th March, 1887.)*

4. CASE OF ACUTE OR SUB-ACUTE MYELITIS RESULTING IN RECOVERY, WITH PARTIAL PARALYSIS OF THE LEGS.
5. A SERIES OF CASES OF PERIPHERAL PARALYSIS—CHIEFLY MUSCULO-SPIRAL, WITH REMARKS ON PERIPHERAL NEURITIS.

THE present paper, which is in continuation of that published in the *Journal* for October, 1886, was read and discussed at the Southern Medical Society, on the 10th March, 1887, and contains the record of a series of cases, which, if not very rare, are at least interesting and instructive from a practical point of view.

**4. CASE OF ACUTE OR SUB-ACUTE MYELITIS RESULTING IN RECOVERY, WITH PARTIAL PARALYSIS OF THE LEGS.**

George Y., aged 27, a labourer, came to the Dispensary on the 27th November, 1885, complaining of loss of power in the lower extremities, of eight months' duration, brought on, as he supposed, by long exposure to cold and wet while working at the Tay Bridge.

On enquiry it was elicited that he had suffered from venereal disease on several occasions. About eight months before his present illness commenced he had a sore on the penis, and in January of 1885, about three months before the onset of the symptoms now complained of, he had another sore. About five years ago he had gonorrhœa, but will in no sense admit that he ever had any secondary symptoms.

The following is the history which he supplied of his paralytic seizure:—During the months of February and March of 1885 he had not been feeling well, although he was able for work, his chief symptom being pain in the head, complicated latterly with attacks of dizziness. In the month of April he was suddenly seized with complete loss of power in the legs, which he discovered on attempting to rise from bed in the morning. Immediately after this occurred he was taken to the Dundee Royal Infirmary, where he remained for a period of nineteen weeks. He stated that while in the Infirmary he was at times troubled with involuntary evacuations of the bladder and bowels; and at the time he was under observation at the Dispensary here he was troubled with involuntary micturition during sleep, and had, he said, to keep his bowels somewhat constipated in order to prevent involuntary evacuation of the contents of the rectum. During his residence in Hospital he suffered from bed-sores, but after a lengthened period of treatment he was sent to a Convalescent Home, being able to walk with the aid of a stick. He returned to Glasgow about eight weeks before he was first seen at the Dispensary, and was still much troubled with weakness in the legs.

On examination it was noted that the patient walked slowly, somewhat stiffly, and with great deliberation, but without any unsteadiness or ataxia. He could stand quite steadily with his eyes shut and his feet close together, and he could walk well in a straight line along a narrow plank. On testing the muscular power it was found to be very decidedly diminished in both legs, but sensation was quite normal as regards touch, pain, and locality. The patellar tendon reflex was very greatly exaggerated in both limbs, and the ankle clonus could also be

developed especially in the left. The sole, cremasteric, and abdominal reflexes were all easily called forth. He stated that at times, when he was sitting perfectly at rest, the right leg would be quite involuntarily and spasmodically drawn up. He occasionally experienced "prickling" in the soles of his feet, and on rising from bed in the morning he did not "feel the floor to be cold." The cicatrix of a large bed-sore was found over the sacrum, but there was no tenderness at any part of the spine. No history of traumatism could be made out; and no trace of skin eruption could be seen, although cicatrices of bubos were present in both groins.

The patient was put upon Easton's syrup, and recommended to rub the legs firmly for 10 or 15 minutes every night and morning; he was also instructed to return to the Dispensary thrice weekly to have the constant current applied to the spine and legs.

*30th November, 1885.*—The patient was seen again to-day, his condition being the same as before. 10 to 15 cells of a Leclanché battery were applied to the spine for 10 minutes; and he was impressed with the necessity for regular attendance, so that treatment might be carried out.

*11th December, 1885.*—To-day patient expressed himself as being if anything rather better since the present treatment was commenced; but he still drags the legs with very apparent effort in walking, and complains that he feels the right to be weakest, although this is not visible in his gait. He has great weakness across the small of the back if he walks for any distance. It is noted to-day, in addition to the increased weakness complained of in the right leg, that there is some degree of anaesthesia in the right lower peroneal region and outside of the foot, and that the muscles of the same limb do not respond so readily to the interrupted current as those of the left.

This is the last note that was taken, and—as the patient then or soon afterwards ceased to attend, and could not be traced—the further clinical history of the case cannot be given. I wrote, however, to my friend Dr. Henry Rutherford, of the Dundee Royal Infirmary, and he, with the kind permission of Dr. Robert Sinclair, Physician to the Hospital, has obligingly supplied me with the following notes of the patient's condition during the time he was under observation in that institution:—

"George Y., æt. 26, labourer, admitted 16th April, 1885. Complains of loss of power in the legs, and inability to empty the bladder (passing small quantities of water with straining

at stool), which have only appeared within the last three days; also of pain in the right temple and right side of the head of more gradual onset—within the last two months, aggravated within the last three days, and associated with dizziness.

“Gonorrhœa five years ago. Sore on penis about nine months ago, which healed in a fortnight. No history of sore throat or spots.

“Stout, healthy looking man; cubital and nuchal glands enlarged; sensibility to touch good all over; sensation of numbness in back of right thigh and calf, and across the sacrum; power very much diminished in both legs, about equally; plantar and patellar reflexes present, might be normal; no superficial reflexes obtained in abdomen; bladder not distended; bowels constipated (requiring enemata). Temperature in evening, 100°, and on 18th, 102.2°. After admission he was put upon pil. hydrargyri, gr. ii, and pil. opii, gr. i—one pill three times a day.

“1st May, 1885.—Since 22nd April the temperatures have been almost strictly normal. Knee reflexes quite gone; very slight ankle clonus on right, none on left, side; plantar reflex more marked on right side; sensibility to touch good all over, but sensibility to pain is distinctly impaired in the right leg; power quite gone.

“4th May, 1885.—Evening temperature, 104°. As gums are spongy and tender the pills are stopped.

“7th May, 1885.—Temperature still keeping up. Great pain in passing the catheter; startings are present in the legs; the sensibility to pain is somewhat improved; clonus well marked in left ankle; no patellar reflex, but plantar reflex still most marked on right side.

“8th May, 1885.—Was put upon 10 grains of iodide of potassium three times a day.”

It is unnecessary that I should give the report in full after this point. It will be sufficient to say that for some weeks after date of last note the patient suffered from a sloughing bed-sore over left buttock, from abscess in the right iliac region, and from diffuse cellulitis over the outer part of the left iliac crest. In June he began slowly to regain power in the limbs, when the constant current was commenced, and on the 31st August he was put on liquor strychniæ, and sent to the Convalescent Home, being able to walk fairly well with the help of a stick.

*Remarks:*—The case which I have just recorded is interesting from several points of view. It is interesting as an

illustration of the fact, now very well known, that very profound paraplegias, dependant apparently on serious organic changes within the spinal cord, may be partially or even completely recovered from. It is also interesting from the length of time during which the case was continuously under observation. But perhaps the *most* interesting enquiry which it calls forth—an enquiry having a very direct bearing on our prognosis and treatment of such cases—is, What is the precise nature of the morbid condition on which the symptoms depend? At first sight, after a careful examination of the patient, it appeared to me that the symptoms had originated in an acute myelitis brought on by exposure to cold and wet in a man whose constitution had been impaired by intemperance and sexual excesses; and the case at once recalled to my mind a severe example of myelitis of which I had charge under Professor M'Call Anderson while I was his house physician in the Western Infirmary. This case after a most severe illness recovered well, and the clinical history was published by Professor Anderson in the *Edinburgh Medical Journal* for August, 1881. The patient, a sailor, aged 35, was admitted to Ward II, on the 26th of January, 1881, complaining of complete loss of power in the legs, partial paralysis of the arms, numbness of the extremities, and of the trunk as high as the navel, and difficulty of swallowing and breathing. For nine days before his admission, there was a gradual onset of the symptoms, which were supposed to be due to exposure to cold in Govan graving dock, and which began with "sleepy sensations" in the feet and hands, and rapidly progressing weakness of the legs. Constipation was a marked feature, and there was a tender spot over the last dorsal vertebra. At one period in the history of the case the difficulty of breathing became so great that fears of speedy death were entertained, and for some days he had to be fed by the nose on account of the difficulty of swallowing. Sensibility to touch and pain was very deficient in the legs; and on two occasions the catheter had to be used. No bedsores formed, but it should be remarked that a blister applied for only one hour caused the most pronounced vesication some time after it had been removed. Dr. Anderson treated the case by flying blisters to the spine, subcutaneous injections of atropine, and ergot by the mouth (to contract the vessels of the spinal cord), and latterly by friction of the limbs and back with warm camphorated oil. This patient made a very good recovery; he left the hospital quite able to walk, but still feeling some weakness in the legs, and a slight degree of numbness in the anterior part

of the soles of the feet. The patient was occasionally rather intemperate while on shore, but was unaware of his ever having suffered from syphilis, of which no evidences were found.

My first conclusion, then, regarding my own case was that it was one similar in many respects to that of Dr. Anderson, which I have just briefly sketched. There was the same exciting cause in each—viz., exposure to cold and wet, with a distinct history of intemperance; and the general course of events in the two cases was somewhat similar. No doubt, when closely scrutinised, there are many points of difference, yet the general similarity of the two struck me so much at the time, that I stated to the students attending my clinique that here we had to deal with a paresis of the lower limbs, resulting probably from an acute or a subacute myelitis. No doubt Dr. Anderson's case was the more immediately dangerous of the two, the acuteness being much greater and the inflammatory lesion more widely distributed through the cord—the case just recorded, as Dr. Sinclair's report shows, was not so acute nor so generalised, and yet the recovery has not been so complete, probably for the very reason that the acuteness was less and the inflammatory process more localised. These were my conclusions before Dr. Rutherford so kindly sent me Dr. Sinclair's report, the receipt of which at once raised another point for deliberation—viz., How much had syphilis to do with the onset of the patient's symptoms? There is a distinct venereal history, but none of undoubted syphilis; and it will be noticed that in Dr. Sinclair's hands the patient underwent a pretty complete course of anti-syphilitic treatment. Quite recently Prof. M'Call Anderson showed at the Glasgow Medico-Chirurgical Society a number of cases of syphilitic disease of the central nervous system, in which remarkable improvement immediately followed the employment of a mercurial course. Now, it is possible that the primary affection in my case may have been syphilitic; indeed, the personal history and the prolonged pain in the head before the onset of the paralysis and numbness of the legs rather point that way. But, on the other hand, there are two points about the case that render me somewhat doubtful of the syphilitic theory. They are—(1) the exposure to extreme vicissitudes of weather in an intemperate man, and (2) the comparatively sudden and quite unlooked for onset of the paralysis. In Dr. Anderson's case of myelitis to which I have alluded, there was no question of syphilis; and, as I have said, the case I have just recorded was in many points

very similar to it. I spoke at the meeting alluded to, of the difficulty I have in understanding how a syphilitic lesion of the central nervous system can first of all manifest its presence by the comparatively sudden onset of paralysis, such as occurred in this case, so that, on the whole, I am inclined to regard the symptoms as having originated in an attack of myelitis, induced by exposure to cold and wet, in a man whose constitution had been seriously impaired by vicious habits.

I do not think that the patient whose case I have recorded would be likely to improve much, the symptoms which he presented being probably due to a permanently damaged cord—a lateral sclerosis more or less extensive, with some implication of the posterior columns (as evidenced by the numbness in the right leg and soles of the feet), having resulted. No doubt, however, this could be prevented from getting worse by careful treatment on general principles—*e.g.*, by the application of the constant current to the spine, by massage, and by the employment of nerve tonics. The two cases which have been made the subject of the above remarks also prove how much can be done by treatment carefully carried out in the early stages of such affections.

#### 5. A SERIES OF CASES OF PERIPHERAL PARALYSIS—CHIEFLY MUSCULO-SPIRAL, WITH REMARKS ON PERIPHERAL NEURITIS.

CASE 1.—Mrs. D., about 60 years of age, presented herself at the dispensary, on the 2nd September, 1886, complaining of loss of power in the extensor muscles of the forearm. About a month before this date she fell asleep with her head resting on the back of her hand. On waking, she found that she was quite unable to extend the hand, and this condition has remained ever since. In this case there was very typical wrist-drop at the time she was seen, but there was no wasting of the muscles. The flexor muscles of the forearm could be used fairly well. In addition to the local condition, the patient was troubled with bronchitis and derangement of the stomach, and she was also of a very nervous and emotional temperament. She was only seen once, as she had come from a considerable distance in the country for advice.

CASE 2.—W. S., aged 59, a spirit salesman, was seen at the dispensary, on the 17th August, 1886, complaining of loss of power and wasting of the right hand and forearm.

The paralysis of the hand set in for the first time on the

12th of January, 1886; on that day he was engaged taking stock in the shop, and found that he was unable to hold the pen; he then remembered that on awakening in the morning he had been lying with his arm behind his head, which, when he rose was very stiff, with a "prickling feeling all over it as if it were sleeping." In a few days from this date he lost the power of the hand entirely. The paralysis at this time affected both flexors and extensors, so that he could not open or shut the hand, nor use it in any way, and continued so for about a period of two months. Since that time there has been a slight degree of improvement, especially of the flexor muscles, although he is still quite unable to close the fist. He has, for a number of months, been troubled with rheumatism of the right shoulder, but this has never been at all severe. Otherwise, he has all along enjoyed perfect health; and he is a tall, robust, very muscular man, perhaps, however, a little too stout.

On examination, the structures on the back of the right hand are found to be greatly wasted, especially the muscles passing between the thumb and the forefinger. On looking at the palm, it is discovered that the thenar and hypothenar eminences are very flaccid and small, and that there is great softness and wasting of all the muscles arising from the external condyle; the flexors, however, have remained of fairly good consistence and volume. When the hand is held out from the body, a slight, but very perceptible degree of wrist-drop is observed, and he is quite unable to elevate the hand above the level of the back of the forearm. He cannot close the hand perfectly, but he is able to lift and arrange chairs, and perform similar actions by keeping the fingers fixed in a semi-flexed position. It is only with very apparent difficulty that he is able to hold light objects between the forefinger and thumb. The electrical condition of the muscles could not be satisfactorily ascertained. He also stated that some time ago he had been much troubled by the hand swelling very much for longer or shorter periods.

16th September, 1886.—The patient has attended the dispensary very regularly since first admission, and has had the constant current (10 to 20 cells) applied to the arm several times a week, in addition to persevering with Easton's Syrup. The state of the hand as regards atrophy, &c., is not changed, although the patient says that for some time after the electrical treatment was commenced, he felt some improvement as regards the muscular power. It may be doubted, however, whether this is really so. To-day, the right shoulder,

which was the seat of slight rheumatic pains, was carefully examined, but the muscles of that region were not at all involved.

*21st February, 1887.*—To-day, one of the students attending the dispensary informed me that he had recently seen this patient, and that he was much in the same state as before. His health was excellent, but his hand was neither better nor worse.

**CASE 3.**—Mary G., unmarried, aged 36, a seamstress, was admitted to the dispensary on the 16th September, 1886, complaining of loss of power in the left hand, of four days' duration.

On Sunday last (12th inst.) she woke up finding that she had lain with her head upon her left hand. Upon further enquiry, she explains that she was lying with her head resting on the back of the left hand, the hand being thus very strongly flexed upon the forearm. In this position she had been reading in bed and had fallen asleep. On wakening the limb was exceedingly stiff, and felt as if it were sleeping: since then she has had very little muscular power either in the forearm or hand, and she states that for the first day or two sensation was entirely gone from the part.

On examination sensation is now found to be perfect in both hands, but the grasp of the left is exceedingly defective. There is very obvious paralysis of the extensor muscles of the forearm, causing a very distinct wrist-drop; and the patient is not able to hold anything in the hand. There is no great difference in the girth of the two arms; the paralysis, evidently, chiefly involves the extensor communis digitorum, the extensor carpi ulnaris, and the extensor minimi digiti, muscles supplied by the posterior interosseous branch of the musculo-spiral nerve. She was instructed how to apply massage to the arm, and the necessity of the careful and persevering application night and morning, of this form of treatment, was impressed upon her. In addition, 3*i* doses of Easton's syrup were prescribed after food.

*14th October, 1886.*—The patient has been regular in her attendance since first admission, and to-day the following notes of her case were made. She is now very considerably improved, but she has still great difficulty in using the extensors of the fingers, being quite unable without aid to put the dorsum of the hand and fingers into a straight line. While this is true as regards the fingers, she is now quite able to flex and extend the hand at the wrist joint; but she cannot carry

it to the ulnar side. She remarks to-day that she is able to hold a "seam" in her left hand and sew it, but she has generally a difficulty in letting it go. It is also noted to-day that, if she grasps the knuckles firmly with the right hand, she can to some extent extend the fingers. She is urged, in view of the manifest improvement which has occurred, to persevere with the treatment.

*21st October, 1886.*—To-day it was again noted that there was continued improvement in this case, and the same treatment was recommended.

*21st February, 1887.*—To-day the patient again presented herself at the dispensary, and informed me that, for some time after I went off duty in October last, she continued regular in attendance and in her attention to the instructions I had given her. It is now found that the paralysed muscles have completely recovered. She is able fully to extend the wrist and the fingers; to carry the hand to the ulnar side of the forearm; and to open and shut the fist with perfect freedom; in fact all the movements of the hand and wrist are now perfectly restored. The only complaint she has is that the left hand as a whole does not feel quite so strong as before, but she is able to do her work as well as ever. Another course of Easton's syrup was prescribed, and she was advised not to omit employing the massage, but to continue it from time to time.

**CASE 4.**—James W. K., aged 14, a sailmaker, was admitted to the dispensary in August, 1886, complaining of loss of power in the left hand, of six weeks' duration.

This was a case of musculo-spiral paralysis, so similar in its distribution and general characters to that of Mary G., just described, that it is quite unnecessary again to describe in detail the condition of the affected member. One or two points, however, of importance in reference to etiology may be briefly alluded to. At the extremities of the fore and middle fingers of the left hand the remains of a pretty extensive suppurative inflammation around the nails was present, the inflammation, as he says, having been caused by blood-poisoning, but no information as to the mode in which the poisoning had been effected could be obtained from the lad. The suppurating fingers were incised by a medical man, and during the course of the inflammation, which lasted four weeks, he had to carry his arm in a sling. It was on laying aside the sling, on the recovery of the inflammation, that he first discovered the paralysis of the arm, of which

he had been previously quite unaware, and which was certainly not at all present before the onset of the suppuration in the fingers. The patient, who could not be got to attend regularly, was treated by massage, the constant current, and Easton's syrup. He attended at irregular intervals for a period of nearly three months, at the end of which time there was considerable improvement in muscular power, although recovery was by no means complete, and he had returned to work.

*Remarks.*—The cases, which I have just recorded, are not at all uncommon, nor do they present any features of very special significance, but I think they are interesting, inasmuch as they serve to direct our attention to a form of nervous disease, which until lately has rather been overlooked. I refer to peripheral neuritis. Thus, Buzzard \* says:—"A flood of light has been thrown upon the physiological anatomy and the pathology of the brain and spinal cord, and it is perhaps to some extent in consequence of this comparative concentration upon the central nervous system that the part played by the peripheral nerves in the production of symptoms of disease has not until recently received the amount of attention which it undoubtedly deserves."

The cases which I have related present, on the whole, the features of musculo-spiral paralysis due to pressure, but, if they are more carefully looked into, it will, I think, be found, with regard to cases Nos. 2 and 4 at least, that the question of a localised peripheral neuritis may legitimately be considered. We owe one of our most graphic descriptions of "Paralysis from local pressure on nerves owing to malposition during sleep" to Weir Mitchell.† He says "At first, both sensation and motion suffer, but the motor palsy usually continues longer and is more severe. The most troublesome cases are those which arise from a person having slept with one arm resting on the edge of a settee. Two such cases appeared at my clinic recently. In both there was hardly any sensory loss, but in both there were exactly the same muscular troubles. The flexors were perfect, but there was complete palsy of the extensors of the wrist, of the first phalanges of the fingers, and those of the thumb, occasioned in both instances by pressure on the musculo-spiral nerve." Now it

\* *On some Forms of Paralysis from Peripheral Neuritis*, page 2. By Thomas Buzzard, M.D. London: J. & A. Churchill. 1886.

† *Injuries of Nerves and their Consequences*. By S. Weir Mitchell, M.D. London: Smith, Elder, & Co. 1872.

will be observed in my cases that in none of them, so far as could be made out, was the pressure applied directly over the nerve-trunk but rather to the paralysed muscles themselves, which in cases Nos. 1 and 3 must have been very considerably stretched during the malposition; in case No. 4 there was no question of pressure at all. In case No. 2, I think there must have been a degree of peripheral neuritis present from the following circumstances—viz., the general state of the patient, which was suggestive of good living (neuritis is very common in gouty subjects—Buzzard), the fact that the paralysis set in somewhat slowly in the course of a day or two after the pricking sensation was first of all complained of, and from the swelling which the hand used at times to undergo. Many of the typical signs no doubt were absent, such as the trophic lesions of the skin and the severe neuralgic pains, but Buzzard has shown that we may have cases in which such symptoms are not present. I cannot say whether we are to regard the pain in the shoulder from which this patient suffered as having any connection with the paralytic condition, but Buzzard has shown that in some cases a spot distinctly tender on pressure may often be discovered in that situation (*loc. cit.*, page 30).

Case No. 4, a typical example of musculo-spiral paralysis, is also interesting from an etiological point of view, as I have already stated. Here it is difficult to imagine how there could have been any injury of the nerve effected by pressure; the paralysis was observed after he had laid aside the sling he had been wearing for some weeks. The question which rises in my mind is—Had the suppuration of the fingers anything to do with the paralytic state? I think it not impossible that it had. The last interesting point in connection with the cases is, that in all (of which records were obtained) there was a degree of improvement, and in one perfect recovery. I cannot help thinking, therefore, that by carefully carried out treatment in cases of this kind, whether due to pressure or peripheral neuritis, we may be pretty confident in promising a good result. But as case No. 3 shows, this can only be brought about by the most persistent and self-denying perseverance with the treatment over a lengthened period of time.

**CASE 5.**—Since the above remarks were written the following typical case has also been under my care at the Dispensary.

John A., aged 53, a waiter, presented himself for advice on the 25th March, 1887, complaining of loss of power in the left hand, with typical wrist-drop of three days' duration. He is not a sober man, and the night before the paralysis set

in he went to bed feeling all right, except that he had several glasses of whisky beforehand. He awoke at 5 A.M. and found nothing wrong, but on rising at 8 o'clock he discovered that he could not put on his clothes owing to the loss of power in his left hand. He is not aware of having lain on the arm, and never felt as if the hand were "sleeping." The patient had all the appearance of a broken-down tippler, and all the features of the case were typically those of musculo-spiral paralysis—the loss of power being entirely limited to the extensors of the forearm. On grasping the knuckles, so as to keep the first digits extended, he could extend pretty freely the terminal phalanges. The treatment consisted of friction with warm camphorated oil, and the application of the constant current to the arm and hand three times a week. The electrical treatment was most efficiently carried out in the recently established Electrician's Department, and I take this opportunity of gratefully acknowledging the valuable assistance I have at all times received from the officials of that department.

*8th April, 1887.*—To-day the patient stated that he felt much better, and was meditating returning to his work. There is still considerable wrist-drop, but he can extend the fingers much more freely than before. He is advised to persevere with the treatment for some time longer.

*22nd April, 1887.*—To-day the patient stated that he had returned to work. The wrist-drop is almost entirely gone, and he can hold out the hand in a straight line, though he cannot raise it above the level of the back of the forearm. The chief inconvenience he now suffers is that when he lifts water-bottles with his left hand, it forcibly swings round on the flexor surface of the forearm—owing to the weakness of the extensors. He is advised to persevere with the friction of the forearm for a lengthened period, and to take 3*i* doses of Easton's syrup.

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## CURRENT TOPICS.

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**GLASGOW ROYAL INFIRMARY STAFF DINNER.**—The first annual dinner of the staff of the Royal Infirmary was held in the Royal Hotel, George Square, on the evening of Thursday, the 5th May last. There was a good attendance of members of the staff, both resident and visiting, and a very enjoyable

evening was spent. Dr. Robert Perry and Dr. James Dunlop, the senior physician and surgeon of the Hospital, discharged respectively the duties of chairman and croupier, and both gentlemen added much to the pleasure of the evening by relating their reminiscences of the "Royal" of former days.

**FACULTY OF PHYSICIANS AND SURGEONS.**—At the last meeting of the Faculty Dr. T. K. Dalziel was admitted a Fellow, having undergone the full examination required by the new Regulations. Dr. Dalziel thus enjoys the honour of being the first Fellow admitted to the Faculty under the present system of admission by examination.

**PATHOLOGICAL AND CLINICAL SOCIETY.**—At the meeting of the Society held on the 9th May last, the following gentlemen were elected office-bearers for the ensuing session:—*President*, Dr. James Finlayson; *Vice-President*, Mr. H. E. Clark; *Treasurer*, Dr. J. B. Russell; *Secretary*, Dr. David Newman; *Editorial Secretary*, Dr. John Lindsay Steven; *Other Members of Council*, Dr. Donald Fraser; Dr. G. S. Middleton; Dr. Eben. Duncan; Mr. A. E. Maylard.

## REVIEWS.

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*Hip Disease in Childhood, with special reference to its Treatment by Excision.* By G. A. WRIGHT, B.A., M.B., Oxon, F.R.C.S., Surgeon to the General Hospital for Sick Children, Manchester, &c., &c. London: Longmans, Green & Co. 1887.

IN our notice of Mr. Howard Marsh's manual on *Diseases of the Joints*, we had occasion to refer to the question of excision of joints, and to state our reasons for dissenting from the strong position taken up by that author in opposition to excision. We are glad to have placed in our hands a monograph which takes up the opposite view with regard to the hip-joint, the joint to which Mr. Marsh's criticisms more especially apply. Mr. Wright has had opportunities for observation little, if at all, inferior to those enjoyed by Mr. Marsh of observing hip-joint disease in all its forms, and at all stages of progress. He has, further, performed the operation

of excision of the hip more than a hundred times, and has carefully recorded every important fact in all his cases.

The combined statistics of Sayre, Bryant, and the author show that of 1,344 cases of hip-joint disease nearly 1,000 occurred under fifteen years of age. There is a curious contrast between the figures of Mr. Wright and those of Mr. Bryant as to the frequency of the disease in early childhood, the latter recording 126 cases as under four years out of a total of 360, while the former has only 130 under five years in a total of 619. Mr. Bryant's figures tally with those of Prof. Sayre, who gives 365 cases, of which 221 were under fifteen years, and 121 under five years; but this proportion of cases of hip disease in young children is much above what we have knowledge of in Glasgow, where the conditions of life are very similar to those in Manchester, and where, it would seem, our experience of joint disease is also much the same.

As to the causation of the disease, Mr. Wright quotes with some approval Mr. Barwell's suggestion that in boys it is often caused by the existence of phimosis; this condition causing irritation in the lumbar portion of the spinal cord, and trophic changes in the joint taking place as a consequence. On the much vexed question as to whether there is commonly an injury as the exciting cause of the disease, he gives a guarded, and, we think, very sensible opinion; he believes that in a healthy child an injury will do no serious harm, but (however slight it may be) in a strumous child will start the chain of pathological effects which we sum up under the name of *morbus coxae*. His conclusions on the etiology and pathology of the disease are so important that we shall offer no apology for quoting them *in extenso*. They are as follows:—

“1. That hip disease is dependent upon that deficient power of recovery and tendency to caseous degeneration which may be called strumous or serofulvous disease, or better, tuberculosis, and that this constitutes the predisposing cause. It is, in fact, a local tuberculosis.

“2. That any slight or severe injury, over use, &c., or the onset of a specific fever, may, in such a constitution, prove an exciting cause.

“3. Injury in a healthy child may produce synovitis, or even acute inflammation of bone about the hip, as elsewhere, but this does not, except very rarely, lead to chronic hip disease.

“4. In the vast majority—almost the whole—of the cases of ‘*morbus coxae*,’ the disease begins as an osteo-myelitis of

the upper epiphysis of the femur, or of the immediate neighbourhood of the epiphysial line.

"5. This particular osteo-myelitis tends to destruction, and usually runs a chronic course with caseation of the inflammatory material, and resolution can rarely, if ever be expected when the disease is well established.

"6. The occurrence of the disease in childhood is explained by the physiological and anatomical peculiarities existing before puberty."

The chapter on symptoms is an admirable one, and shows extensive reading as well as wide practical experience. He considers the stages of the disease as most satisfactorily divided into—1st, The period of flexion, the stage of bone mischief alone; 2nd, The period of abduction, corresponding to the extension of the mischief from the bone to the joint; and 3rd, The period of adduction and shortening—the stage of destruction of the capsule and external abscess. He does not consider that there is any reliable sign of abscess in its early stage, excepting thickening of the great trochanter; when, however, the abscess makes its presence shown externally, the course which it takes may give valuable information as to the seat of the bone disease. "When the abscess points on the front of the limb above a line drawn through the upper border of the great trochanter, there is disease of the pelvis, and this is the more certain the higher and the more internal the opening. . . . Abscess pointing between the scrotum or labium and the thigh, I always look upon as of serious import, indicating pelvic caries."

Few surgeons with much experience of this disease will be prepared to dissent from the gloomy picture sketched by the author in his chapter on prognosis. He says, "Cases of true hip disease very rarely recover without entire destruction of the upper epiphysis of the femur, usually accompanied by abscess, and always result in shortening, with more or less deformity, and a very large majority die; very few reach adult life, and they are mostly cripples, with ankylosed or stiff, and too often useless limbs, almost always flexed, and often adducted as well."

We have at the beginning of this notice adverted to the fact that Mr. Wright is a warm advocate for excision, and there is no doubt that the special value of the book lies in the evidence he brings forward in support of his views, and more especially in the particulars of the cases (numbering over one hundred) in which he had done the operation, and the success he had obtained. The rule which seems to guide

him in the selection of cases is the simple one that "treatment short of excision, when once suppuration occurs, is useful only as a palliative, or as a means of temporising."

The detailed particulars of the cases operated on, given in the form of an appendix to the work, together with the examination of the parts removed, are sufficient to exonerate Mr. Wright from the charge (so often and so glibly made) of selecting only the favourable cases and discarding the bad ones.

Of the hundred cases of excision of the hip, of which he gives particulars, fifteen died; but five of these died more than a year after the operation. Although the mortality is a little above that of the cases collected by the committee of the Clinical Society of London, it is a very low rate, especially so when we note that of the ten patients dying within a year three died over two months after the operation, leaving only seven deaths which could be supposed directly to result from the excision. We are sorry that Mr. Wright shows such anxiety to reduce the number of deaths directly due to the operation to two, especially as he so distinctly fails to prove his point. His results are especially brilliant when compared with the figures published by Leisrink, who gives 98 deaths in 170 cases, or those of Jacobsen, who gives 147 deaths in 250 cases!

Mr. Howard Marsh's book appeared while the one at present under review was passing through the press, but Mr. Wright comments in a footnote on what he regards as a misleading statement in that work as to the mortality of cases of *morbus coxae* treated by rest alone. He evidently considers that Mr. Marsh speaks too favourably of expectant treatment, and too unfavourably of excision. If such be the case, Mr. Wright's book is a vigorous and effective "counterblast" wherein the tendency is to admit no evil in excision and see no good in other modes of treatment.

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*Pilocereus Senilis.* By WALTER MOXON, M.D., F.R.C.P.  
London: Sampson, Low, Marston, Searle, & Rivington.  
1887.

FRIENDS and lovers of the late Dr. Moxon—if facts permit such a distinction to be made—will welcome the appearance of this book from the hands of his widow. The selection from his writings is only inferentially medical, only medical as the true physician is medical, in his home relations to his

fellows. But it is truly Moxonian. The various essays rise in versatility and satire to the full force of Moxon's brilliant genius, and sink at times to the more appreciable standard which makes genius human as it touches common things. True to the definition of heroism enunciated by Carlyle, his genius was as lightning out of Heaven which all men waited for like fuel and then they too would flame. But as lightning requires a positive and a negative electricity to produce the flash so Moxon required an appreciative audience to be always brilliant. Hence it is that we take these essays to our comfort as an analysis of his genius. We may prolong the interval between the flashes at our pleasure, and study his light as the chemist does the solar spectrum. Like the solar spectrum they show varieties of colour and intensity when carefully scrutinised, but the whole is a memory of the bright sunshine which has gone out of so many lives.

Among Moxon's students his teaching will never wane; but the soul of it which educated them to be men as well as medical men will nowhere linger so long as in these essays. His teaching was finite rather than final, his critical observations almost forbade finality. Just so much as may be final, we find in *Pilocereus Senilis*—there is no retracing these footsteps. As we grasp them, we leave behind our former views as he would have us do the affectionate sympathy of those who have known us since our petticoat days, perhaps also, with some lingering thought of how comfortable these wraps were. But it was Moxon who showed his students how "to work out of their few ounces of brains what Thompson and Johnson made out of the few pounds their fathers left them." It was he who taught them that the prospect of unlimited happiness was but a youthful idea. It was he who taught them also that all wise happiness is derived from a source which will give happiness to ourselves and others at all times, and in all places. And Moxon's secret of happiness was truth. Not the truth on the part of the plaintiff which is an easy thing, but the truth which asserts a victory over denial, the truth which brings little ease but strengthens the hand for further combat. And notice how he lays the burden upon our shoulders. He reveres John Hunter, as all of us do. He excepts him from Mr. Mill's criticism on the ground that he is more than an average intelligence. He tells us that John Hunter does not "bring facts like a cart-horse does dust." But he also asks us why we do not deliver yearly orations "to those old fishwives who discovered the law that rickety infants get better by

cod liver oil?" Which can we imitate? The question has its lesson, and signalises the teacher.

From Moxon's truth we pass to Moxon's faith. It is a simple corollary that "excess of knowledge in the form of statements learned at second hand is dangerous to faith." How very simple and graphic is the similitude of such faith to a prehensile tail, which can derive support only from external objects often beyond the reach of vision. Neither does the comparison of faith to wings bearing a man up by his own brave effort towards better things satisfy Moxon, for we lose our hold upon the ground when we use them. Truly, *faith is not an appendage of humanity*. In quiet times we do not know what to believe. In troubled times first belief must be found, then faith follows. "Your faith is your own line of action in the conflict of opposing things that are equally true." By such means only is our faith criticised, aye, and even realised, and this home criticism breeds liberality in our judgment of the faith of others. For faith transcends opinion, however carefully formed—it transcends belief, however logically attained; it transcends the judgment of the most just, and yet it contains all. It is the holiest of holies within a man, into which he himself dare not enter, save when the pure robe of personal trial shrouds him from all but his better self. "So it happens that the man with the largest faith is also the man with the largest doubt; and if he seems foreclosed on points where little sceptics air their uncertainty, it is because he has no petty doubts; and if he seems dubious where little prehensile believers are sure, it is because they are incapable of faithful doubting."

By a bold stroke, this faith which can never be second hand is said to be mainly characterised by being contagious. "You may think that I am wrong in calling this power of the mind, this power of life in the mind, by the name of faith." "The ordinary word whose import is nearest to it is the word *meaning*; no one can have this faith unless he has a meaning; he has no faith who means nothing, and the common nature of faith and meaning is best seen in their common feature of contagiousness. The highest ultimate signification of faith is in this contagion."

There is a manifest parallel between these personal characteristics of Moxon's belief and his relations to his pupils. The corelation is marked when we turn to his remarks upon teaching and training, under the heading, "The Biologist and the Physician." At some length he demonstrates that knowledge which is nobly superior to mere utility is nobly useless. That the proper aim of education is to support the

self-training faculty, which he calls the vital spark of character. Teaching, he says, is the mere storing of knowledge, and may be quickly done. "The trainer has to convert the pupil's knowledge into motive, his desire into patience, and his will into skill." "By such training knowledge becomes power. But knowledge, as given by the mere teacher into the memory is not power; it is so much weight, which by training may become the instrument of power." And, again, "desire is even greater than power; it is the possibility of power." How very similar to the effect of second hand knowledge upon faith is this assertion, "Large amounts of knowledge which cannot be brought into present motive and use interfere with training."

So speaks Moxon of his own work, and we recognise in his words the secret of his life. His satire, kindly, playful, or withering, had a similar basis. It was mainly a protest against butter milk; always a protest against being led by dangerous littles into the prehistoric mud, there "mentally to sit in the damp and look into the dark." But with all his contempt for mud Moxon never failed to find the stepping stones, and faithful students knew that he had studied these paths as carefully as he tells us he had done the collection of Hunter. Perhaps he was somewhat impatient of delay in marshy districts. Mud breeds miasmata for the mind as well as for the body, and birds are better fitted to search for its treasures than we are. Probably in later years men who had painful experience of the slippery stepping stones recognised the full value of Moxon's help.

But now he is gone, and these papers form his memorial wreath. The plant is prickly and the flowers have been culled for us by hands which must have bled over the gathering of them. But they come to us fresh and young, as he was, to be a wonder to the vulgar and a treasure to those who know that every fragment dropped upon the dust heap of our knowledge will thrive and bear brilliant blossoms.

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*Lectures on Medical Pathology: Delivered at the London Hospital in the Summer Session, 1885.* By HY. GAWEN SUTTON, M.B. London: Baillière, Tindall & Cox. 1886.

WE can say little that is good of this volume, and less in commendation of it, and so perhaps the less we say of it the better. The author has added nothing to his reputation by the appearance of this book, and the hopeless muddle in which the present attempt to publish (*without proper revision*) lectures from shorthand notes has ended, should be enough to deter other lecturers from doing the same. In his preface

the author says that "I should like to spend years in their revision." We heartily wish, for the sake of British pathology that he had. The book is totally without any definite plan, and there is nowhere the slightest attempt at any scientific classification. The style is most defective and slovenly, notwithstanding the author's intimate acquaintance with Lucretius, Shakespeare, and other literary luminaries. The preface of the book seems to be a laboured attempt at fine writing, which in our opinion is by no means without very serious errors. In illustrating the course of the medical student the author draws from the *Pilgrim's Progress*. In such an effort strict literary accuracy is a desideratum, and it will not do to talk of taking "a header into the Pool of Despond." Now, it was not the Pool, but the Slough of Despond that Bunyan wrote of, and further, Christian and his friend Pliable (not Plausible, as our author has it) did not take a header into it, but "they, being heedless, did both fall suddenly into the bog." The preface throughout is frequently provocative of risibility, as when, after giving a moderately long quotation from Shakespeare, the author indulges in the following truism:—"You will have noticed that I often quote Shakespeare, for he knew human nature." Again, the exceedingly long list of errata, a very much longer list than we are accustomed to see in medical works, is quite enough to destroy one's faith in the accuracy of the volume. In any work, especially one of this size, of any pretensions to scientific authority, there can be no excuse for such a list. What has been said of the preface may also be said of the text—vague, inaccurate, and uncertain are terms which we think fitly describe the lectures. We may mention the chapters on Inflammation in illustration. What are we to think of a pathologist who, in describing the causes of inflammation, writes as follows?—"First, most common, venous congestion; i. e., there is some failure of lungs or right heart, or some pressure or disease in veins, so that the serum cannot flow along the capillaries freely. In consequence, the tissues must get swelled into inflammation." The beauties of the author's style are also obvious from this quotation. Again, in a chapter entitled "Inflammation of Serous Membranes," it is difficult to see how the subjects mentioned in the following sentence should be discussed in full detail:—"There are three morbid conditions that we are continually meeting with in inflammations; these are, anæmia, scrofula, and rickets. Here, then, we may begin the study of anæmia which is met in crowded towns." We are sorry we cannot recommend the book.

*Photography of Bacteria.* By EDGAR M. CROOKSHANK, M.B.  
London: H. K. Lewis. 1887.

THE object of the author in publishing this work is not to make any original contribution to the study of bacteriology, but rather in his own words "to demonstrate that photography may be employed with success to represent preparations of bacteria even under conditions unfavourable for photography." He adds that he is "anxious to encourage the attempt to make photography subservient to bacteriology." With this end in view, the author has chosen subjects for illustration which are common and familiar to all who have paid any attention to bacteriology. We have ordinary micrococci, pneumonic bacteria, bacillus anthracis, tubercular bacilli, those of leprosy, spirillum of cholera, &c., whose appearances are so well known that any one can judge of the success of the photographs. The plates which illustrate this are twenty-two in number. The last five are reproductions of the original photographs as taken from the specimens, while most of the others are enlargements of these. We must congratulate the author on his success in the object which he has set before him. The photographs are by no means equal, and there are some, such as those illustrating the tubercular bacillus, which seem to us to be very unsatisfactory, but on the whole they afford a sufficient demonstration that photography should form a most important adjunct to bacteriology.

The work contains a full and clear account of the various manipulations and apparatus required in following out this method of illustration, and we heartily recommend it to all who have this in view.

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*Die Krankheiten der Frauen (The Diseases of Women).* By DR. HEINRICH FRITSCH, Professor of Obstetrics and Gynecology at Breslau. Third edition, pp. 493. Braunschweig: Friedrich Wreden. 1886.

IN the number of this *Journal* for September, 1882, our readers will find rather a lengthy review of the first edition of this work, and we need now only point out in what respects this edition differs from the former.

There are 175 instead of 159 woodcuts, and 493 instead of 416 pages, the increase being chiefly due to the introduction of a chapter on diseases of the mamma, and sections on chlorosis, sterility, and hysteria.

In speaking of gynecological operations, the author recommends Hagedorn's needles and needle-holder as being the best. We have used them, but feel disposed to complain of the size and weight of the needle-holder, and the fact that the handle is apt to obscure the view of the upper part of the *vagina*. As the best material for sutures, silk is mentioned. It is to be well boiled, and then kept in a 1:1,000 solution of corrosive sublimate, so as to make sure of its being aseptic.

In regard to the operation for removal of the ovaries, Fritsch thinks that Trenholm and Battery were contemporaries, but that it was Hegar who was not only the first to operate, but the first also to place the operation on a scientific basis. He believes that it is indicated in three conditions—(1) incurable atresia, such as complete absence of the *vagina*; (2) severe forms of menorrhagia from fibroids, and obstinate retroflexions of the uterus; and (3) in cases of very severe dysmenorrhœa with ovariitis, and hystero-epilepsy, where all other means have been tried.

In the case of myomata, where the ovary is so incorporated with the tumour as to risk severe bleeding in its removal, an elastic thread passed round the pedicle of the ovary is advised, as being likely to lead to atrophy of the gland.

The author believes that the tendency to chlorosis is hereditary, and that the exciting cause is unnatural strain of mind or body about the time of puberty. He strongly condemns the over-education of girls at boarding schools, or allowing them late hours after being introduced into society, and his remarks remind us of the song which good old Izaak Walton put into the milkmaid's mouth when she sang—

"But oh ! the green-sickness  
Soon changed her likeness,  
And all her beauty did fail ;  
But 'tis not so  
With those that go  
Through frost and snow,  
As all men know,  
And carry the milking-pail."

Besides the forms of menorrhagia resulting from well marked organic changes in the uterus and its appendages, the author recognises three forms where such changes are not found. First, that which is seen in girls just beginning to menstruate, the precise nature of which he does not profess to know. Second, a form seen in the heyday of childbearing, which he believes due to excessive sexual intercourse, especially in some women who have had a number of children in

close succession. Third, the form seen about the menopause, which is also often inexplicable. In all these cases he advises rest, change of air, and the use of ergot.

In a general way, the treatment of the various forms of disease is remodelled and brought up to date.

In our opinion this is one of the best of the smaller works on gynecology, and well deserves a careful perusal.

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*Investigations into some Morbid Cardiac Conditions; including the "Cartwright" Prize Essay on "The Heart in Debility."* By WILLIAM RUSSELL, M.D., Lecturer on Pathology in the School of Medicine, Edinburgh. Edinburgh: Bell & Bradfute. 1886.

IN this volume the author seeks to prove that in conditions of debility, such as in fevers and in anæmia, the left auricle, owing to dilatation of the right heart, is further removed from the thoracic wall than it is in health, and therefore that pulsation felt in the second and third left intercostal spaces cannot be due to pulsation of the auricle. Studying the question from the pathologico-anatomical standpoint as well as from the clinical, he further concludes that the so-called hæmic murmur is certainly not due to aortic or mitral conditions. He believes, on the contrary, that the first murmur heard in anæmia originates in the pulmonary artery, in which, he says, a kink is produced by dilatation of the right auricle. As the case goes on, a murmur due to tricuspid regurgitation is heard, and this in what is commonly known as the aortic area. His views as to the area of audition of a tricuspid murmur are thus quite at variance with those generally held. Further, he denies that there is any murmur audible in the carotids other than that produced by simple pressure, the venous hum also being due to compression of the vein by the stethoscope. He entirely repudiates the notion that the murmurs in anæmia are caused by depreciation in the quality of the blood, although that may aid in their production.

Dr. Russell has dealt with a subject on which light is needed to be thrown; the historical enquiry, with which the volume opens, makes this quite clear, while it is itself wanting in lucidity. His observations and arguments deserve the careful study of all interested in cardiac pathology, but they do not convince us that his conclusions as to the causation of anæmic murmurs are correct. The reports of some of his cases are such as to suggest that errors of observation have not been

entirely excluded. This, and a tendency to too dogmatic statement, rather impair the value of the work.

Should a second edition be called for, it would be well if the author were to recast the book, as a great amount of repetition might thus be saved.

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*Transactions of the American Surgical Association.* Vol. IV.

Edited by J. EWING MEARS, M.D. Philadelphia: P. Blakiston, Son & Co. 1886.

THIS volume of the Association's *Transactions* contains some very valuable papers, and foremost amongst them must be mentioned Dr. Senn's contribution on the Surgery of the Pancreas. Based upon experiments and clinical researches, it forms one of the most masterly and scientific pieces of surgical consideration that this hitherto almost totally neglected organ has ever received. When it is intimated that such affections as "Interstitial Pancreatitis," both acute and chronic, and "Gangrene of the Pancreas" receive each a careful delineation of symptomatology, with the appendage of illustrative cases, some notion may be obtained of the minuteness and extent to which the subject is treated.

Another very good paper is Dr. Christopher Johnston's on "Diagnostical Laparotomy." Of almost equal value is the discussion which follows. While the author was strongly in favour of exploratory laparotomy, considerable difference of opinion existed with those who subsequently spoke on the subject.

"Stretching of the Facial Nerve" forms the subject of an interesting discourse by Dr. W. W. Keen, and a table of recorded cases adds considerably to the value of the contribution.

The President's address on "The Union of Nerves of Different Functions considered in its Pathological and Surgical Relations" is also well worthy of special notice.

Other papers of interest are:—"A Consideration of the Bacteria of Surgical Diseases," by Dr. Harold C. Ernest, a paper which illustrates also the good work being carried on in this department of the Medical School of Harvard University; "Traumatic Aneurism of Internal Carotid Artery following Gunshot Injury," by T. F. Prewitt, M.D.; "Lipoma Testis," by Roswell Park, M.D.; "Two cases of Cholecystotomy," by Charles T. Parkes, M.D.; and lastly, "Subcutaneous Division of Urethral Stricture," by C. H. Marston, M.D.

*Alpine Winter in its Medical Aspects.* By A. TUCKER WISE, M.D., &c. Third Edition. London: J. & A. Churchill. 1886.

A THIRD edition of a book, in as many years, is a sufficient testimony that it is generally appreciated, and that the subject of which it treats commands attention. The alterations which we observe in the present edition of *Alpine Winter in its Medical Aspects*, are in the direction of popularising the book by additional illustrations and topographical notes, while the meteorological records are continued for 1885-86. There is, therefore, nothing that calls for further criticism or remark. We much wish that in a future edition, or perhaps better, in a new volume, more exclusively intended for the medical profession, Dr. Wise would take advantage of his exceptional opportunities to place on record the medical histories of the patients that come under his observation; stating the changes in the condition of the lungs in phthisical cases, which occur in the course of prolonged residence at high altitudes. These cases would be read with critical interest by the profession, and would help toward the formation of opinion regarding the value of this method of treatment, and the particular class of cases which profit most. We need only add that the new volume is distinguished by its elegant binding, with gilt edges, and may suitably be described as an *Edition de luxe*.

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*Year-book of the Scientific and Learned Societies of Great Britain and Ireland.* Fourth Annual Issue. London: Chas. Griffin & Co. 1887.

THIS book undertakes to give "lists of the papers read during 1886 before societies engaged in fourteen departments of research." We should expect that some attempt at completeness would characterise a work claiming to cover such a field, but on turning to the societies which are most familiar to us we find the record most unsatisfactory and incomplete. Of course London is fully represented, but so far as Glasgow is concerned, the only medical societies whose papers are given are the Obstetrical and Gynaecological, the Southern Medical Society, and the Glasgow University Medico-Chirurgical Society (the students' society). The Medico-Chirurgical is mentioned, but the reader is referred to this *Journal* for the lists of papers, while the Pathological and Clinical Society is not mentioned at all except in small type at the end.

## MEETINGS OF SOCIETIES.

## MEDICO-CHIRURGICAL SOCIETY.

SESSION 1886-87.

MEETING VIII.—28TH JANUARY, 1887.

DR. COATS, *Vice-President, Pathological Section, in the Chair.*

## I.—CASE OF DISPLACEMENT OF THE HEART.

BY DR. M'VAIL.

A CASE of altogether exceptional cardiac displacement was shown. Patient is a ship steward, aged 29. In the usual cardiac area there are neither pulsations to be felt nor heart's sounds to be heard when the patient is at rest, and the area of cardiac dulness to percussion has absolutely disappeared from the front of the chest. In no part of the left side of the thorax is there any cardiac sound or pulsation to be detected, but the heart is found beating *posteriorly, in the right inter-scapular space and beneath the angle of the scapula.* Over the right back there is absolute dulness from the base of the chest up to the level of the 7th dorsal vertebra, and very decided comparative dulness up to the level of the 4th dorsal vertebra. This dulness extends forwards as far as the mid-axillary line. All over this area the breath sound is loudly tubular, and in the inter-scapular space it is amphoric with loud pectoriloquy. In the right inter-scapular region and beneath the angle of the scapula, the heart's sounds are heard in quality and intensity very much as they occur in ordinary circumstances in the normal cardiac position. There is no visible apex beat, but auscultation shows that most probably the apex is in the 9th inter-costal space in the line of the angle of the scapula. The sounds are normal in character. Over the right side of the chest in front the respiratory murmur is louder than on the left side, and it has something of a tubular element. When patient is at perfect rest the heart's sounds are not heard here. The right side of the chest is considerably contracted as compared with left. There is considerable falling down of the right shoulder.

Thirteen years ago, from being trampled by a horse, patient had his right clavicle and five of his right ribs fractured; the fracture, in each instance, was near to the sternum. He made

a rapid recovery, and was quite unaware of any complication or succeeding ailment. With the exception of a short attack, two years ago, of pleurisy, that kept him from work for only one week, he remained quite well until about six months previous to admission to hospital, when he became troubled with cough and shortness of breath, and had, for several weeks, a sharp pain shooting from the left nipple region towards the mesial line. Since the time of the fractured ribs, he has never had any pain in connection with the *right* side of the chest. He distinctly remembers that when he was a boy and ran races, he felt his heart beating in the usual position.

With two months' rest in the Infirmary his cough has almost disappeared, and the shortness of breath, he says, is much less troublesome, and his general condition is now very fair. He proposes to go home in a few days.

In this case there has probably, as a result of the injury of thirteen years ago, been a chronic pleuro-pneumonic condition, in which has occurred adhesion of the pleural and pericardial surfaces, and subsequently great contraction of the posterior portion of the right lung, dragging the heart to the right and backwards, while the anterior portion of the lung remained pervious to air, and has even undergone a considerable degree of emphysematous enlargement. The mass of the right lung behind its root has so entirely contracted as to be probably without any vesicular structure, and to occupy only a very small space in thickness between the heart and the posterior thoracic wall. But this condensed portion contains the large bronchial tubes on their way to the patent lung tissue in front, and, moreover, these tubes have undoubtedly undergone some dilatation. Thus is accounted for the amphoric breathing and pectoriloquy in the right interscapular space. The heart, having behind it this condensed lung tissue, has laterally and in front a large amount of patent lung tissue, by which the cardiac sounds are so much damped as to be hardly, if at all, audible in front when the patient is at rest.

The displacement in this case is much greater than in any recorded instance within Dr. M'Vail's knowledge.

*Dr. Alexander Robertson* said that this was certainly a remarkable displacement of the heart. He had seen nothing like it. He had seen a case of fibroid phthisis, with large cavities, in which the apex beat was at the left axilla; and another in which, as a result of left pleurisy, the apex beat was at the right nipple. He was inclined to think that Dr. M'Vail's explanation was the correct one. The accident having occurred when the lad was young, the parts would be plastic,

and the displacement more readily effected. Of course, the apex of the heart could not be at the place indicated by the stethoscope.

*Mr. J. P. Carter* said that Pegroff and Braune had made frozen sections of dislocation of the heart; but these showed only the effects of displacement, not the cause. In the present case, it would be well to make observations on the effects on the circulation. The *venæ cavæ* should be twisted if the heart was displaced to the right side. Braune averred that the whole base of the heart was easily turned in one direction or another.

*Dr. Middleton* said that at present heart's sounds could be faintly detected in front over and below the left nipple. He could not conceive of a displacement of the kind to which Dr. M'Vail's remarks pointed, and could not accept the theory which he had stated.

*Dr. Workman* adverted to the absence of the record of the exact chest measurements. He was inclined to think that this might be a case in which there had been great condensation of the lung following pleurisy, and the condensed lung substance acting as a good conductor of sound, the heart having been forced back to the right, the displacement though considerable, was not so great as the sounds would indicate, and not so great as that which Dr. M'Vail's theory would necessitate.

*Dr. Coats* said that he had that day personally examined the patient in the hospital, and he had formed some kind of idea of the pathology of the case. He agreed generally with the view of Dr. Workman as to the primary cause. At the time of the accident the clavicle would be driven in, and the lung lacerated, with haemorrhage into it. In that condition the lung would undergo chronic inflammation and very marked contraction, drawing everything after it. It was inconceivable that the posterior part could have contracted, leaving the anterior part inflated. He could not conceive any condition which would yield such a result. If that lung contracted so as to push against the posterior wall of the thorax, there must be the remains of that lung lying there yet. The heart could not get round the lung; and he thought that the physical signs—the tubular breathing, and the greatly increased vocal resonance—were confirmatory of that view. The lung sounds were audible over the whole region; and the condition of the lung, which conveyed the respiratory sounds so plainly, would also convey cardiac sounds very clearly. Beyond that, if the heart were so close to the chest wall, some kind of

heaving should be felt. What about the clear percussion sound in front? He (Dr. Coats) some time ago published a case in which there was atrophy of one lung, and hypertrophy of the other lung. There was no emphysema in the proper sense. That case proved that congenital non-inflation of one lung might coexist with the other lung greatly enlarged, overlapping the mediastinum. Now, the clear percussion in the present case on the right side must be due to the overlapping of the left lung. The right lung was, in fact, greatly collapsed, while the heart was drawn backwards to the right, and the left lung came round in front of the heart, and covered the region of cardiac dulness.

*Dr. M'Vail*, in reply, said that he did not say that the heart was in apposition to the wall of the chest. On the contrary, he stated that there was necessarily the root of the lung behind it. He did not venture to say how near it was. The physical signs of it were absent in front; for the feeble sounds, which Dr. Middleton had heard, were not usually present, and were no doubt due to excitement. There was beyond doubt enormous displacement backwards to the right side, and the sounds were far more distinctly heard there than anywhere else; and all he ventured to affirm was that the heart was not very far distant. He did not say that there was an actual apex beat there, perceptible to the hand as such. It was possible enough that Dr. Coats' theory was right, and his own wrong, but they had to balance probabilities. He thought that Dr. Coats' hypothesis of the right lung, lying shrivelled up between the heart and the posterior wall of the chest, and the left lung reaching over to the right axillary line, was certainly a far stretch. He did not see why it was necessary to assume that the whole of the right lung underwent consolidation. He thought it more probable that only partial consolidation took place.

## II.—VOLUNTARY AND INVOLUNTARY CATALEPSY, WITH THE SEQUEL TO A CASE SHOWN TO THE SOCIETY IN 1883.

BY DR. ALEXANDER ROBERTSON.

After some preliminary observations on the pathological relations of catalepsy, mentioning that it was by no means rare in some forms of mental disease, at least in a partial form, Dr. Robertson proceeded to give an account of the case. The patient had been shown by Dr. Wood Smith to a meeting of the Medico-Chirurgical Society in 1883. He was a married man, aged 23, and employed as a labourer in a

chemical work. He had been of somewhat intemperate habits, but not a drunkard. A maternal uncle was at one time insane. For about a week before his admission into the Infirmary he had been taciturn, doing things mechanically, and on the day previously he was apparently unconscious. During his residence in the Infirmary his limbs retained any position in which they were placed. Thus, when his arms were raised perpendicularly above his head they remained in that position for about ten minutes, and then slowly fell. His head and trunk could be moulded in the same plastic way. Sensation was apparently in abeyance, as when pins and needles were thrust into different parts of his body, or when a strong interrupted current was passed, there was no indication of feeling. At another time the full current from a 40 cell Leclanche's battery was equally negative in its results. There was, however, active contraction of the muscles. His pupils were sensitive to light and his conjunctivæ to touch. Sneezing did not occur when the nostrils were tickled. The reflexes, both superficial and deep, were in abeyance. He swallowed food, &c., quite well. The urine required to be drawn off by the catheter, otherwise he wet the bed. Its sp. gr. was 1024, and it contained no albumen. The pulse was generally about 80, and was of fair volume. There was no bleeding at any of the needle insertions. The skin generally had a purplish aspect. An ophthalmoscopic examination by Dr. F. Fergus, showed a little narrowing of the arteries and slight distension of the veins. The fundus generally was not paler than usual. The above was his usual condition while in the Infirmary, but on two occasions he walked up and down the ward when told to do so, and supported on either side. Once he laughed loudly.

While in this state he was shown to the Society, and the cataleptic postures were demonstrated. At this meeting, Dr. Robertson stated his conviction that the patient was not fully unconscious, and that, should he emerge from this condition, he would be found to have been labouring under some overpowering delusion.

There was a little apparent improvement during a few days of the six weeks he was in the Infirmary, but latterly his general torpor and disposition to plastic rigidity became more pronounced. He was then transferred to the Town's Hospital under Dr. Robertson's care. For several weeks afterwards he continued much in the same state. It was noticed that when his arms or legs were in position the muscles did not seem to be firmer or more rigid than they would have

been if the same positions had been assumed by voluntary efforts. For a time he would not take food, and as his mouth was firmly closed, it was necessary to feed him by the nose.

At this stage it was determined to try the effect of the stimulus of continuous heat to the head. It was applied through the water-cap, an apparatus designed by Dr. Robertson many years ago for the application of heat and cold at graduated temperatures. Water at on an average 115° Fah. was circulated through the india-rubber tubing of the cap for about two hours daily. Careful observations were made of its effects at each application. One of the results was a rise of the axillary temperature by about 1½°—sometimes a little more or a little less. After the first application there was a noticeable improvement. Instead of staring vacantly at the ceiling, as was his wont, he looked round him as if he were observing; soon he began to take his food himself when put into his hand, and within ten days he was speaking, answering questions with intelligence. The cataleptic state of his limbs had not ceased. A further improvement was effected when heat and cold were alternated to the head, this being carried out by simply circulating cold water instead of hot through the cap. However, the plastic disposition persisted, though not in so marked a degree. The treatment was now changed. The water-cap was laid aside and the continuous current passed through the head. Under its use the remaining cataleptic tendency soon passed away.

When his intelligence was sufficiently restored he was carefully questioned as to his recollection of what occurred during the cataleptic state. It was found that he remembered having been taken to the Faculty Hall and many of the circumstances of his visit. On being asked why he kept his limbs outstretched as he did, he replied, "It was the Lord," by which he meant that it was in obedience to Divine command. He also said, in reply to a question, that he remembered the pricking with the needle, but did not feel it much. On this point it is worthy of remark that his circulation became more active along with the returning intelligence, as was shown by the bleeding of needle pricks.

Unfortunately, though so greatly improved it was found that the delusive thought of acting under the mandate of the Deity had not entirely left his mind. It was therefore deemed advisable to send him to the Asylum at Woodilee. There he completely recovered and was discharged as fit for his employment. However, he soon began to indulge to excess in alcohol and his mental illness returned, so that he

had again to be sent to the Asylum. The same sequence of recovery, discharge, and relapse from the same cause occurred again. This time he appears to have had one if not two epileptic fits, but some doubt exists on this point. At no time during his residence in the Asylum had there been any indication of catalepsy.

In reviewing the case Dr. Robertson dwelt particularly on the mental condition. He said that in recorded cases of catalepsy it was clear that the observers considered that the postures maintained by the patients were entirely involuntary. It was evident, however, that his patient acted voluntarily though under delusion. Further, a certain amount of consciousness had been preserved, while his mind was apparently a blank, as was evinced by his being able to describe the appearance of the Faculty Hall, as well as some of the incidents of his visit to it, after recovery. Were the case to be included under catalepsy, to which, looked at in respect to its most prominent features, it had a very distinct claim, then, assuming that the impressions of observers in cases hitherto published were correct, two forms of the disease existed, one voluntary, the other involuntary. At the same time it might be contended that voluntary catalepsy was a misnomer, and that it would be more correct to consider such cases as the one submitted to the Society as cataleptoid rather than cataleptic. On the other hand, the will was not a healthy but a very diseased will, and was the expression of the morbid state of the brain, which determined the general torpor of the intellect, the defective sensation, the languid circulation, and probably also a disposition to the *flexibilitas cerea* of the muscles. Attention was also directed to the action of graduated heat applied to the head in initiating recovery.

Dr. Workman said that in Munich he saw a case which had some resemblance to the present. The patient was in a state of deep melancholia. She could walk if she were pushed along. The physician put it down, not as a case of catalepsy, but as a cataleptic condition. For three months she had never moved voluntarily. In Germany it was generally held that in true catalepsy there was entire unconsciousness. In the present case there may have been entire unconsciousness in the early stages. He saw another case of a girl who for several months remained in a kind of stupor. Shocks of the Faradic current were applied till the tears came, but no movement. That girl eventually got well, and was then asked as to her condition under this treatment. She stated that she was in dreadful agony, but was wholly unable to move. The physician admit-

ted that the cure taught him a lesson, and that he would never in a similar case use the same treatment.

*Dr. Hutchison* mentioned the case of a girl affected with hysteria and hæmianæsthesia. One day he induced a cataleptic condition by holding a light pretty close to and above her forehead. Into this condition she could after that day throw herself and would remain 24 hours in it. She had a fair family history, though an uncle's mental condition was dull.

*Dr. Robertson* said that he carefully differentiated between the recognised class of cases attended with unconsciousness, in which the movements are considered to be involuntary, and the other class in which the will was brought into action. In the present case the will was not entirely in abeyance. The existence of the involuntary class of cases had been called in question. Cases were not uncommon in asylums in which a degree of cataleptic condition was associated with a form of mental disorder.

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## GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

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SESSION 1886-87.

MEETING IV.—26TH JANUARY, 1887.

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*The President, DR. SAMUEL SLOAN, in the Chair.*

ALFRED BELL WHITTON, M.B., C.M., Banff, was elected a Fellow.

### I.—MODEL OF INCUBATOR.

By DR. SAMUEL SLOAN.

A Model of the Incubator in use presently at the Maternity Hospital was exhibited. He alluded to the experiment being made with triplets.

### II.—(1) A FœTUS AT THE SIXTH WEEK WITH MEMBRANES ENTIRE, AND (2) A FœTUS AT THE FOURTH WEEK WITH AMNION CHORION AND REMAINS OF UMBILICAL VESICLE.

By DR. MURDOCH CAMERON.

## III.—A REVIEW OF THIRTEEN YEARS' PRIVATE OBSTETRIC PRACTICE.

BY DR. J. K. KELLY.

The discussion upon Dr. J. K. Kelly's paper was then opened by *Mr. J. Stuart Nairne*, who thought the essayist had been fortunate in never having had a case which failed to be delivered by means of straight forceps. He could not imagine a normal pelvis admitting of such distensibility as would be evidenced by the "erection of the hip" mentioned. Nevertheless, considerable luxation did take place normally, but the essayist had omitted reference to that joint which was most capable of luxation—viz., the lumbo-sacral. This joint, by its free distensibility admitted—not, truly, of a dilatation of the pelvis—but of an adjustment of the foetus in relation to the pelvis. He objected to, and repelled the views expressed with regard to perineorrhaphy and its frequent requirement.

*Dr. Park* thought "bad nursing" could not be received as a definite cause of maternal death, and that Dr. K. was wrong in excluding ergot from his armamentarium. Though he did not believe in the routine use of ergot (or any other drug), it was far too valuable an aid to obstetric art to be absolutely discarded, and Dr. K. was to be congratulated in never having had a death from *post-partum* haemorrhage, or a case requiring Cæsarian section or craniotomy.

*Dr. Reid* disagreed with him in respect of rupture of the perineum; thought straight forceps dangerous when applied at the pelvic brim, and that the dangers of first labours were greater than those of subsequent ones.

*Dr. Abraham Wallace* doubted whether such an amount of distensibility as Dr. K. reports was possible in a normal pelvis. He granted some lateral expansion, and also the lumbo-sacral movement referred to by *Mr. Nairne*.

*Dr. Oliphant* thought moderate ruptures heal very well without stitching.

*Dr. Ritchie* mentioned that *Lawson Tait* objected to stitching up after labour immediately, as so doing was liable to lead to fistula.

*Dr. Sloan* thought *Lawson Tait*'s remark applied to ruptures of a certain kind only. He thought straight forceps inadequate for use at the brim, and that a double curved instrument should always be preferred when operating hereat. Touching the matter of the pad he placed his somewhat higher than "over" the uterus. He gave ergot in routine as it kept the uterus "retracted." He had only observed distensibility of

a marked kind in one case, and the patient was obliged to wear a tight binder round her hips after labour in order to admit of free locomotion. With regard to ruptures he did not regard a fourchette tear as a rupture at all, as it takes place in nearly all cases. He reckoned three degrees of rupture—viz., (1) where only a few fibres are torn; (2) where the tear goes within a  $\frac{1}{4}$  inch of the anus, and should be stitched thoroughly, and at once; and (3) where the tear goes through the anus and perineorrhaphy is a matter of course. No one had alluded to rupture of the posterior wall of the vagina which also involved immediate stitching.

*Dr. Kelly* in reply adhered generally to the positions taken up in his paper and defended them.

#### IV.—OBSTETRICAL AND GYNÆCOLOGICAL CLINIQUES OF BERLIN AND VIENNA.

By DR. GEORGE HALKET. (See page 408.)

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### ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

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#### S U R G E R Y.

By MR. A. E. MAYLARD.

**Nature, Pathology, and Treatment of Tetanus.**—Among the many subjects under discussion at the recent French Surgical Congress, that bearing upon tetanus formed one of the most interesting. It must be confessed, however, that after reading the account of it, we are still left very much in the same position we occupied before. Abundance of opinions were expressed, but few reliable facts given. M. Vaslin, who introduced the discussion, advocated the nerve theory—that is to say, the affection is essentially of nerve origin. Viewing it thus, he advises, as treatment, laudanum, chloral, and morphine. Two other surgeons supported M. Vaslin, but the majority of the speakers, amongst whom was M. Verneuil, believed in the microbian origin of the disease—or, in other words, that tetanus is due, like syphilis, charbon, erysipelas, &c., to a special micro-organism, and is therefore infectious. Ballestrieri, an advocate of the “nerve” theory, quoted two very typical cases of tetanus, the one arising from a contused wound of the foot, the other from a punctured wound of the finger, both cases recovering after the administration of large doses of tartar emetic. Five centigrammes (about  $\frac{1}{2}$  gr.) were administered at first, the dose being increased up to 40 centigrammes (about  $5\frac{1}{2}$  gr.) in one case and 45 in the other. The amelioration, he states, was rapid, the appetite returned in spite of the emetic, and very soon the cure was complete. (—*Revue de Chirurgie*, 10th November, 1886.)

**The Antiseptic Power of Vinegar and its Employment in the Treatment of Diphtheria.** By Friedrich Engelmann.—The author has employed vinegar in the treatment of diphtheria with, in his experience, better results than with the use of any other therapeutical agent. Ordinary

vinegar or the officinal acetic acid is applied to the throat with a brush. When used as a gargle, double the quantity of water is added.

With regard to its antisepctic properties, the author found, after controlling his experiments by the usual methods, that it surpassed in its power to prevent bacteria development a 5 per cent carbolic acid solution.—(*Archives Générales de Médecine*, 10th December, 1886.)

**Extrication of a Popliteal Aneurism.**—Kehler, after having discussed the various methods adopted for the cure of popliteal aneurism, concludes that, should compression of the femoral artery fail, total extrication of the aneurismal sac ought to be preferred to all other methods. In the case reported by the author the aneurism was about the size of a goose's egg. One constricting band was tied round the leg below the tumour, and another around the thigh above it. The parts thus rendered bloodless, the complete removal of the aneurism was comparatively easy. It was necessary to excise about 5 cm. of the popliteal vein. The patient rapidly recovered. Since 1875 14 cases of aneurism had been treated by total extrication with success.—(*Centralbl. f. Chir.*, No. 42, 1886.)

**The Treatment of White Swelling [Strumous Arthritis] of the Knee.**—By A. B. Judson, M.D., (*New York Medical Journal*, 5th June, 1886).—The method which the author adopts is very simple, and, as good results have been obtained, the practice seems both worthy of attention and of being followed. The knee is first secured in a position of extension by some means of mechanical fixation. A Thomas's splint is then applied to the affected side, and the foot of the opposite raised with a high heel and sole. By the aid of crutches the patient is then able to get about, and the limb being fixed, and liberated—through elevation of the other foot—from bearing any weight of the body, the joint is placed in a most complete condition of rest. While thus locally the parts are placed under the most advantageous circumstances for repair, the patient's general health frequently improves from the exercise which, by the aid of his crutches, he is enabled to indulge in. In one case given, which is also stated as being an illustration of others, almost complete restitution of normal movement resulted from the treatment. The case, too, was a bad one, suppuration having taken place; and the abscess, bursting externally, left a discharging fistula, from which, during the treatment, four fragments of cancellous bone were expelled.

**Upon opening Abscesses in the Ischio-Rectal Region.**—By Paul Reclus.—The purport of this paper is to advocate the treatment of an abscess in the ischio-rectal fossa as if it had already given rise to a fistula. Not only should the abscess be punctured through the skin: but a director should be introduced through the incision thus made; caused to project into the rectum, and the parts intervening, including the sphincter, divided. The author has followed in practice the teachings inculcated, and believes that thereby cures have been much more certainly obtained, and without the long and injurious delay almost inevitable upon the simple puncture alone. [No mention is made of the size of the skin incision, a simple puncture is alone spoken of, so that the treatment advocated under such conditions is no doubt the more advisable. One would venture, however, to suggest that a *free* incision through the skin into the abscess cavity would in very many cases lead to a cure; and that much sooner than by puncturing the rectum and dividing the sphincter. Those particular ills which the author raises as objections to puncture, such as too rapid healing of the skin with subsequent accumulation of pus, imperfect drainage, &c., would be entirely overcome by the free skin incisions. The acuteness of the inflammatory process in many cases would also add much towards healing without division of the sphincter.—A. E. M.]—(*Archives Générales de Médecine*, December, 1887.)

**Galvano-Cautery in Enlarged Prostate.**—By Robert Newman, M.D., of New York. This formed part of the subject of a paper read by the

author before the annual meeting of the American Medical Association. The instrument exhibited, called the *galvano-cautery sound*, is in the shape of a catheter of smooth, polished metal, with a short curve. At the end of its convexity is a fenestrum, in which is placed a platinum wire to be heated. The other end of the instrument is straight, and forms the handle; from this end emerge two wires, the heat conductors, each of which is connected by binding screws to electrode wires, which respectively go to the positive and negative pole of the battery. The heat must be of a high red colour, just short of white heat, the instant the current breaker is touched. The treatment proceeds thus:—The prostatic portion to which the cautery is to be applied must be first ascertained. The instrument is then introduced so that the fenestrum with its platinum wire is in contact with the part to be cauterised. Contact is made, and the application is only from one to three seconds in duration. It causes no pain, and in some instances the patient scarcely believes that anything has been done. He is able to walk about, and is not detained from business. The *séance* should be repeated in about three days, or even two. The theory of the action is that the cautery first acts as a tonic, and next as an astringent; the mucous lining shrivels up, the glandular tissue contracts, and by shrinkage its size is diminished. The operation must be continued till the cure is effected.—(*Journal of the American Medical Association*, 28th August, 1886.)

**On Toxic Urine in Relation to Certain Surgical Operations on the Urinary Organs.** By Reginald Harrison, F.R.C.S.—The chief interest of these remarks by Mr. Harrison centres upon the cause and avoidance of “urethral fever.” It is held by not a few that the constitutional disturbance and pyrexia following upon any accidental wound or special operation on the urethra is due to the effects of a nerve lesion. Mr. Harrison, however, very clearly shows that the primary cause is the stagnation of urine in a wound or space. Although the urine, as ejected from the bladder, may be comparatively normal, when pent up it is apt to be speedily converted into a most destructive and, as the author believes, poisonous agent. Believing this to be the correct interpretation of urinary fever, Mr. Harrison, in cases of stricture of the urethra, performed, in addition to its internal division, an external perineal urethrotomy. The urine thus drained away as rapidly as it was excited, and so long as the bladder drainage of urine through the external perineal wound was free and uninterrupted, there was invariably a complete absence of rigors and fever.—(*Liverpool Medico-Chirurgical Journal*, 1886.)

**On Excision of the Rectum.** By Kendal Franks, M.D.—A successful case by the author forms the nucleus of a general discussion of the subject. The paper, though short, is both interesting and instructive, and, we may say, convincing of the value of excision as compared with other operative measures (colotomy and rectotomy). Statistics are largely drawn upon; among these Gross's and Cripp's tables may be specially noted. Of 153 cases of rectal excision, collected by the former surgeon, 6 reached the limit of ten years; 29 survived the operation for periods exceeding two years, which is the average duration of cases which have not been subjected to operation. Of 63 cases surviving the operation in Cripp's statistics, 44 could be accounted for. Twenty-five of these occurred in the practice of others:—“No recurrence had taken place in 11 instances, after intervals varying from a few months to some years. In 3 of the cases, over four years had elapsed without recurrence. In the remaining 14 cases, recurrence took place after intervals varying from four months to three years. In some of these the recurrence was of a very trivial nature, and was easily removed by a second operation, while in others the patient died of general cancerous cachexia.” Of his own 19 cases, 6 were known to have been well at periods of two to four years after excision. The paper is well worthy of the perusal of surgeons who are still inclined to practise palliative in preference to more radical measures.—(*Dublin Journal of Medical Science*, January, 1887.)

**On Absorption from the Mucous Membrane of the Urinary Bladder.** By Herbert H. Ashdown, M.B. (*The Journal of Anatomy and Physiology*, January, 1887.)—The object of this interesting paper is to prove the absorptive power of the bladder. Experiments were performed upon rabbits principally, and the author found that in all cases injections of drugs, such as strychnia, sulphate of eserine, ether and chloroform, morphia, atropia and curara, hydrocyanic acid, and cyanide of potassium, sooner or later produced their specific effects upon the animal. He further noted that absorption took place more rapidly if the bladder be distended than otherwise. Other experiments were conducted to show that both water and urea are absorbed by the walls of the viscus. These investigations apply to a healthy bladder.

**Stone in the Kidney.**—By Bennet May, F.R.C.S. (*Birmingham Medical Review*, January, 1887.)—The substance of this paper is based on two cases operated on by the author. One case was that of a man, aged 31, in whom the diagnosis of stone was established on the symptom of pain only. He had had pain in the right loin more or less for ten years, and lately had been totally prevented from work. The other case was that of a very nervous, hysterical woman, aged 30. There was a history of lumbar pains and smoky urine for a year or more; then she became very ill, with frequent attacks of headache, vomiting, and shivering, and suffered from pain across the left loin, sometimes shooting down the left side. The urine sometimes contained blood. In this case no stone was detected at the operation. In his remarks upon these two cases, Mr. May points out their marked contrast with one another; the one with slight symptoms had a stone, and the other, where the symptoms appeared almost unequivocal, had none. The examination was as thorough in the case of the woman as in that of the man, that is to say, Mr. May incised the kidney in the manner he describes, inserted his finger into the pelvis, and examined carefully bi-digitally the whole organ. In speaking of the diagnosis of renal stone the author lays greatest stress upon the presence of pain, its situation and character. This alone is sufficient to justify operation; but the presence of crystals of oxalate of lime, and, to a less degree, of uric acid, furnishes important additional evidence; so, also, the presence of small, almost microscopical, traces of blood.

**Operation for Irreducible Dislocation of the Radius.**—Various German surgeons have recommended and practised resection of the head of the radius in cases of irreducible dislocation of that bone forwards. Wishing to restore the function of the joint without so mutilating the bone Dr. Sprengel, of Dresden, has operated upon a case of five weeks' duration, by a different method (*Centralbl. f. Chir.*, 6th March, 1886). He opened the joint on its outer and posterior aspect, and freed the head of the bone, which was lying outside the torn capsule, from the adhesions it had formed during the five weeks it had been dislocated. He then divided the adhesions which the torn capsule had formed in the cavity of the joint, replaced the head of the bone, and closed the ruptured capsular ligament with catgut sutures. Under antiseptic treatment the wound healed well, and the mobility and natural shape of the joint were restored.—D. M'P.

## DISEASES OF THE EYE.

By DR. J. MACFIE.

**The Genesis of Myopia.**—In the July (1886) number of the *Liverpool Medico-Chirurgical Journal*, E. A. Browne, M.R.C.S., publishes a paper on this subject. In introducing it he notices the frequent perversions of the phrase, "prevention is better than cure." What the people using it frequently mean is "that a stitch in time saves nine," and he points out how, when treatment is required for any disease or ailment, the domain of preven-

tion has been passed—an ailment, great or small, being in itself an evidence of the failure of prevention. He goes on to show how this misconception and inattention to the signification of words "underlies the enormous and almost invincible passive resistance to sanitary reformers, lowers the standard of health, reduces the average of longevity, and increases to an enormous extent the national expenditure. Preventive medicine recognises the fact that no scientific advances in methods of treatment, or improvements in operative procedure, can compensate for the existence of insanitary conditions; that to cause disease on the one hand, and cure it on the other, is perhaps the greatest waste of energy of which a community can be guilty."

The application of this introduction to his subject is perhaps sufficiently obvious. The author goes on to point out that it is becoming more and more probable that congenital myopia is either non-existent or very rare. Konigstein examined 600 eyes *under atropin* in infants under 8 days old, and did not find a single case of myopia—only a few with emmetropic eyes, and very many with a high degree of hypermetropia. Schlisch and Ulrich, in a total of 504 eyes, found no case of myopia.

In this manner he comes to the conclusion that the vast preponderance of myopia is acquired, as it is admitted—1st, that myopia is rare before the commencement of school life; 2nd, that it is greater in amount and degree in town schools than in rural schools; 3rd, that it increases according to the number of hours per diem employed in literary work; and 4th, that, other things being equal, it is greater in badly lighted than in well lighted schools. From these and similar facts it may be demonstrated that myopia is the result of faulty methods of education. The evil conditions as at present admitted he classifies under four heads.

1. Conditions inherent in the pupils themselves. Under this he gives various predispositions that may be found in the children themselves. A tendency, for instance, to other affections of the eyes, that may lead to the development of myopia. 2. Faulty conditions imposed by the teachers. 3. Faulty conditions imposed by the printer. And 4. Faulty conditions imposed by the architects. Under these various headings he notes valuable facts, and gives many practical suggestions that should do good service with many readers, whether they have technical knowledge of the special subject or not.

**On the Influence of Concave Glasses and Convergence of the Ocular Axis in the Increase of Myopia.**—(By Professor Foerster, of Breslau; published in the *Archives of Ophthalmology* for December, 1886.)—This lecture is interesting in connection with the preceding note on the Genesis of myopia, for it is quite in the same line, but the Breslau professor goes a long step further, and, while heartily condemning the insufficient illumination of schools, inferior desks, bad paper, and defectively printed books, considers these, as he calls them, "distant causes" of myopia, and thinks we must look further for the true cause. No one, he says, will be so bold as to assert that these remote causes directly elongate the visual axis. They are only at fault in so far as they favour an incorrect position of the body, too great approach of the eye to the book in reading and writing, but between this incorrect position of the student and the elongation of the eyeball there is a broad chasm. How, then, does this incorrect position of the body produce an elongation? Before attempting a solution of the question he again refers to those "distant causes." While in no way opposing the present agitation for better illumination, &c., in schools, he does not in the least believe that any proof has been offered that even the present amount of myopia to be found can be removed by getting rid of these remote causes. He shows that notwithstanding the improvements in schools, &c., within the last ten years, there is good reason to conclude that myopia is increasing among us, and he thinks that the "objects of the *gymnasia*, and the manner by which these are attained, play the most important part in this increase." In short, he condemns the great amount of work in the schools, and the curved and injurious positions in which the student

gets into the habit of working, often in spite of the best illumination, &c., as tending to produce myopia. In answering the preceding question, the Breulau professor goes into a careful comparison of the reasons for the two chief theories as to the production of myopia—The *Tensor hypothesis* and the *Convergence hypothesis*—and although owning in the course of his lecture that he was at one time a supporter of the former, he has come to the conclusion that the latter is the most agreeable to known facts. In combating the common idea that the use of concave glasses tends to increase of the myopia, he gives a valuable series of tabulated cases that go to prove that concave glasses in themselves do not produce this result, and this, even when the myopia is more than compensated by the glasses. The conclusions arrived at are summed up in the following:—

1. The vicious circle producing myopia. The faulty position of the body demands, first of all, excessive convergence of the visual axis, and in order to maintain this for any length of time (in other words to avoid muscular asthenopia and diplopia), an excessive impulse is communicated to the tensor choroideæ (symptoms of spastic myopia). The consequence of this is that the retinal images lose more or less of their distinctness, which can only be restored by reducing the distance at which the object is held (successive approaches of the book or work to the eyes the longer the work is persisted in). Then, again, the diminution of the object distance demanding greater convergence on the part of the interni can only be accomplished by a relatively too strong impulse upon the tensor. Finally, with an increasing tension of the interni, genuine axis myopia is developed; and in this way the vicious circle is complete.

The vicious circle can be broken—

1. By the compulsory maintenance of a greater object distance, so that excessive convergence is prevented.
2. By concave glasses, since by their action the internal images remain distinct, even if the impulse upon the tensor of the choroid is increased, so that it is not necessary to bring the objects closer to the eyes.
3. By abducting prisms of suitable refracting angle; these act sufficiently to reduce convergence.

## EPIDEMIOLOGY.

By JAMES W. ALLAN, M.B.

**Cholera.**—A very interesting and exhaustive paper on “The Bacteria in Asiatic Cholera” by E. Klein, M.D., F.R.S., is running in the *Practitioner*.

The writer gives details of the cultivation of the comma-bacillus in broth, milk, agar-agar mixture, vegetable albumen, egg albumen, linen, gelatine and potato, and describes the results of plate and tube cultures, and these are fully, indeed profusely, illustrated by cuts.

It is difficult for anyone but an expert, to follow the evolutions of this contest over the bacilli, and even the experts themselves confess that we are *only beginning* to learn about the true nature of those organisms. One thing is coming to be pretty well recognised—namely, that no real progress can be made in the study of pathogenic germs till more is known about the life histories of the numerous harmless forms which swarm in the secretions and excretions of healthy animals.

Klein like Lewis, describes a bacillus found in healthy human saliva which seems practically identical with Koch's comma-bacillus. But, as Klein points out further on, morphological similarity and similarity of conduct under cultivation do not establish actual identity; there remains the test of physiological action.

Our author gives it as his opinion that the experimental efforts made to induce cholera by means of injections of comma-bacilli have failed to carry conviction, and that “what has been given as proof is highly unsatisfactory.” In short, the verdict is “not proven.”

**Enteric Fever.**—*Etiology.*—Dr. H. D. Ward, in searching for the cause of a high mortality in typhoid fever in the Cowper Sanitary District, came to the conclusion that it was due to “the use of self-acting ball-hydrants on the recently installed water supply. ‘The self-acting ball-hydrant is the simplest of all the hydrants. It consists of a ball of gutta-percha placed within a pipe projecting from the main. When the water is on, the ball is forced up against the aperture, which is smaller than the ball, and so prevents the water from escaping, but as soon as the water is turned off at the main, the ball falls, and allows air to pass into the pipes. The hydrants are sunk into the ground in the middle or towards the ends of the back streets, at distances of about, seventy yards apart, and are covered over by iron lids loose in iron sockets. They are placed in many instances exactly opposite to ashpit doors, so that when the scavengers are at work the hydrants are frequently covered by the contents of the ashpits, the liquid filth from which must of necessity drain into, and accumulate in the hydrant boxes. When the water is turned off at the top of the street, which only happens now and then, to admit of repairs, &c., the ball of the hydrant falls, allowing the filth to enter the main, whence it is conveyed to the various houses in the locality to be taken into the stomachs of the unsuspecting and unfortunate inhabitants.’”—(*The Sanitary Record*, 15th January, 1887.)

In the February number of the *Record* an extract from the report of Dr. Laing to the Local Board is given, in which the views of Dr. Ward are condemned. Dr. Laing says:—“I have it on authority of the two water superintendents of the past year, that not a single intermission has taken place, nor yet a single repair. The mains have therefore been sealed throughout, during the whole of the year.”

**Treatment.**—In the *Practitioner* for April, 1887.—Dr. Leighton Kesteven insists on the value of Oil of Eucalyptus in the treatment of “Typhoid.” He says:—“First, I believe it acts as an antiseptic, shortening the duration of the fever by destroying its cause, rendering inert its bacillus; and secondly, by lessening the severity of the symptoms by its locally acting and acknowledged healing powers. The inflamed and ulcerated Peyerian glands are soothed, and further spread of the mischief arrested.”

The writer refers to a previous paper of his in the *Practitioner* for May, 1885.

“**An Epidemic of Exudative Tonsillitis in Children**” is the title of an interesting paper, by Dr. Thomas F. Raven, which is published in the *Practitioner* for April, 1887.

The outbreak occurred in an “institution containing about 80 female children and 10 adult females.” The clinical description of the disease is best given in the writer’s own words:—

“During August and September, 1886, nearly 60 cases of exudative tonsillitis occurred, and for two months later occasionally a mild case would crop up. Almost all of them were extremely uniform in symptoms and progress, and the main characteristics were—A high initial temperature, sometimes up to 105°; flushed face; membranous patches upon one or both tonsils; pyrexia, lasting from five to seven days; clearing up of the throat appearances; convalescence, frequently succeeded by relapse (almost certainly the result of re-infection); eventual recovery, without paralytic sequelæ, or loss or impairment of the reflexes. A condition of considerable anæmia and debility generally supervened, lasting for some weeks. Albuminuria was never found, and glandular enlargement was always absent.”

Dr. Raven, in summing up the negative evidence (absence of albuminuria, of glandular enlargement, of paralytic sequelæ, &c., &c.), finds it “against the assumption of diphtheria.”

This is probably the form of sore throat which furnishes those long lists of cases of “diphtheria,” successfully treated, which sometimes surprise us. Dr. Raven did not lose a single case; but then he does not contend that they were cases of diphtheria. He attributes the outbreak to cesspool drainage, as “the supply of milk, food, and water was above suspicion.”

**Treatment of Hooping-Cough.**—Dr. Benjamin Richardson (*Asclepiad*, 1st quarter, 1887) strongly recommends the employment of peroxide of hydrogen in the treatment of hooping-cough. He claims that "it subdues the spasmodic paroxysm, checks the secretion in the throat, and shortens the period of the malady, lessening thereby the dangers of after-effects. The mode of prescribing it is—

" Hydrogen peroxide (10 vols. strength),	6	drams.
Glycerine, pure,	4	"
Distilled water to	3	oz.

" Mix. To make a solution of three fluid ounces, of which let half a fluid ounce be taken in a wineglassful of water as directed.

" When there is stridulous spasm with the cough, I substitute 2 drams ozonic ether for the solution of the peroxide, or add it to the mixture."

### Books, Pamphlets, &c., Received.

**The Practice of Pharmacy: a Treatise on the Modes of Making and Dispensing Preparations, &c.** By Joseph P. Remington, Ph.G. With nearly 500 Illustrations. Philadelphia: J. B. Lippincott & Co.; London: Burroughs, Wellcome & Co. 1886.

**Photography of Bacteria.** By Edgar M. Crookshank, M.B. Illustrated with Eighty-six Photographs. London: H. K. Lewis. 1887.

**Year-Book of the Scientific and Learned Societies of Great Britain and Ireland, comprising lists of the papers read during 1886. Fourth Annual Issue.** London: Chas. Griffin & Co. 1887.

**A Text-Book of Pharmacology, Therapeutics, and Materia Medica.** By T. Lauder Brunton, M.D., D.Sc., F.R.S. London: Macmillan & Co. 1887.

**A Text-Book of Organic Materia Medica, comprising a Description of the Vegetable and Animal Drugs.** By Robert Bentley, M.R.C.S. Eng. With many Illustrations on Wood. London: Longmans, Green & Co. 1887.

**Neurectomy, or Nerve-Stretching, being the Bradshaw Lecture.** By John Marshall, F.R.S., LL.D. With an Appendix by the author and 12 Illustrations by Victor A. H. Horsley. London: Smith, Elder & Co. 1887.

**Post-Mortem Hand-Book.** By Thomas Harris, M.D. With Illustrations. London: Smith, Elder & Co. 1887.

**Treatment of Disease in Children.** By Angel Money, M.D. London: H. K. Lewis. 1887.

**The Essentials of Bandaging.** By Berkeley Hill, M.B. Illustrated with 144 Engravings on Wood. Sixth Edition. London: H. K. Lewis. 1887.

**Congenital Club-Foot: its Nature and Treatment.** By Robert William Parker. London: H. K. Lewis. 1887.

**The Officinal Materia Medica.** By Fred. T. Roberts. Second Edition. London: H. K. Lewis. 1887.

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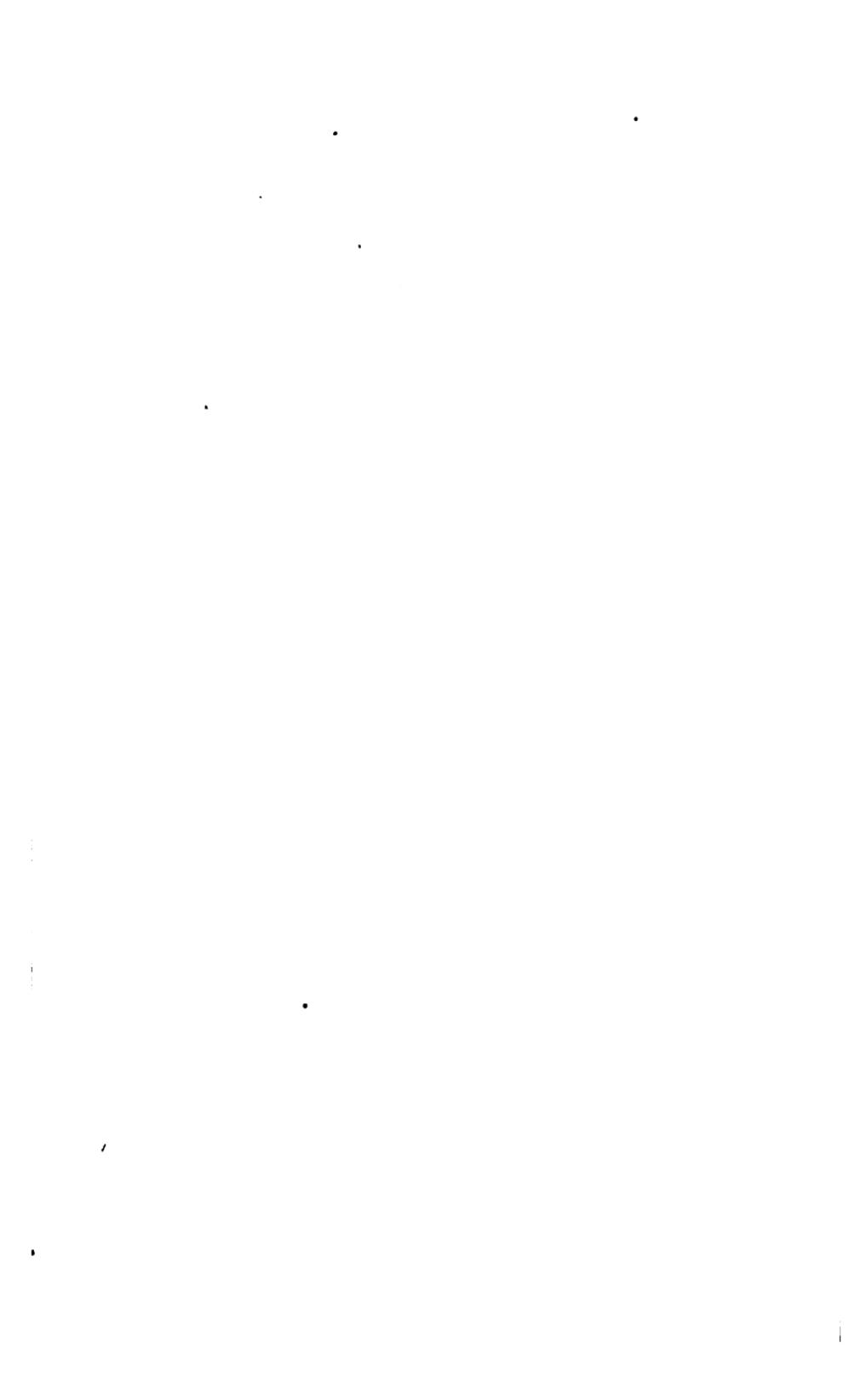
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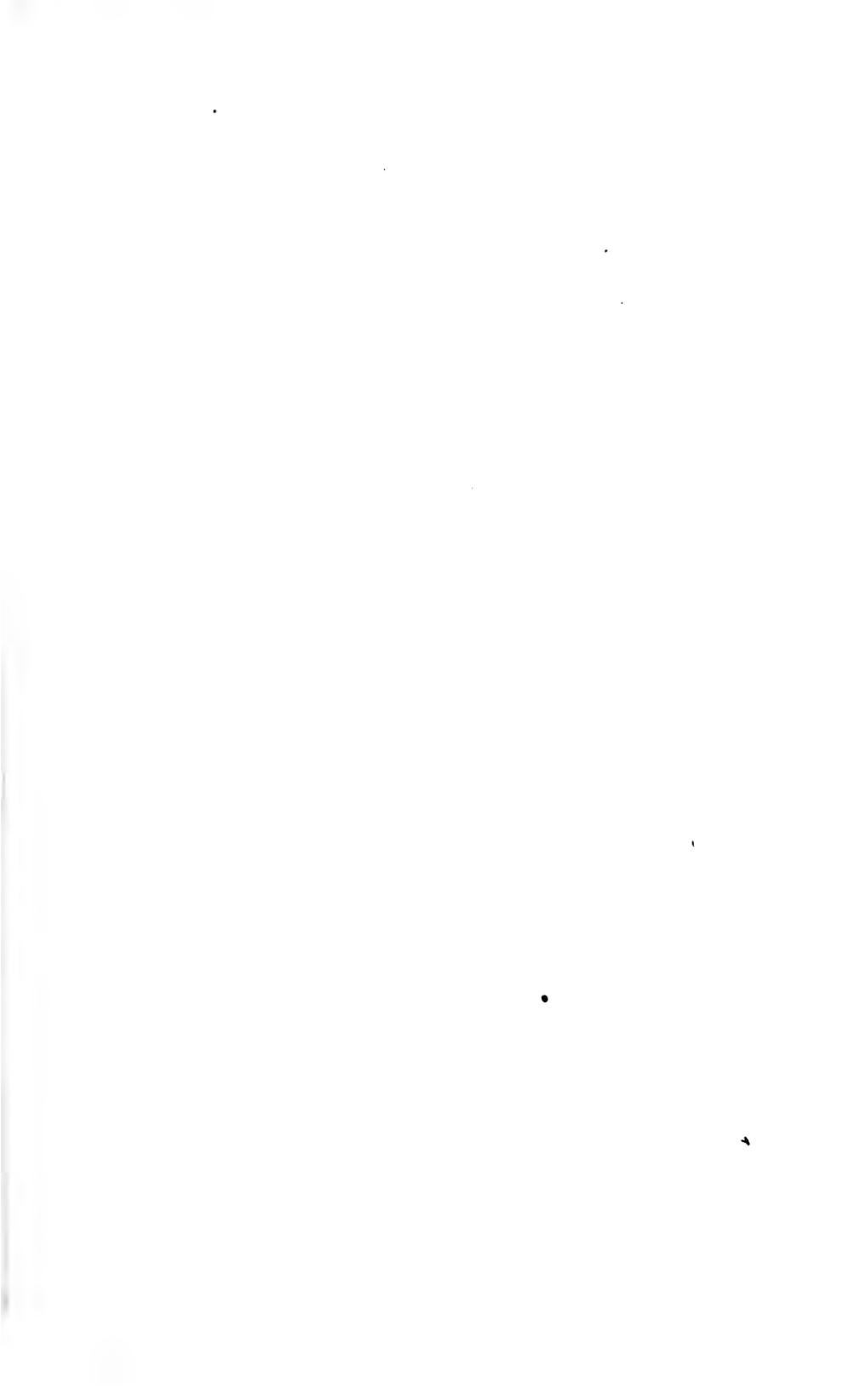
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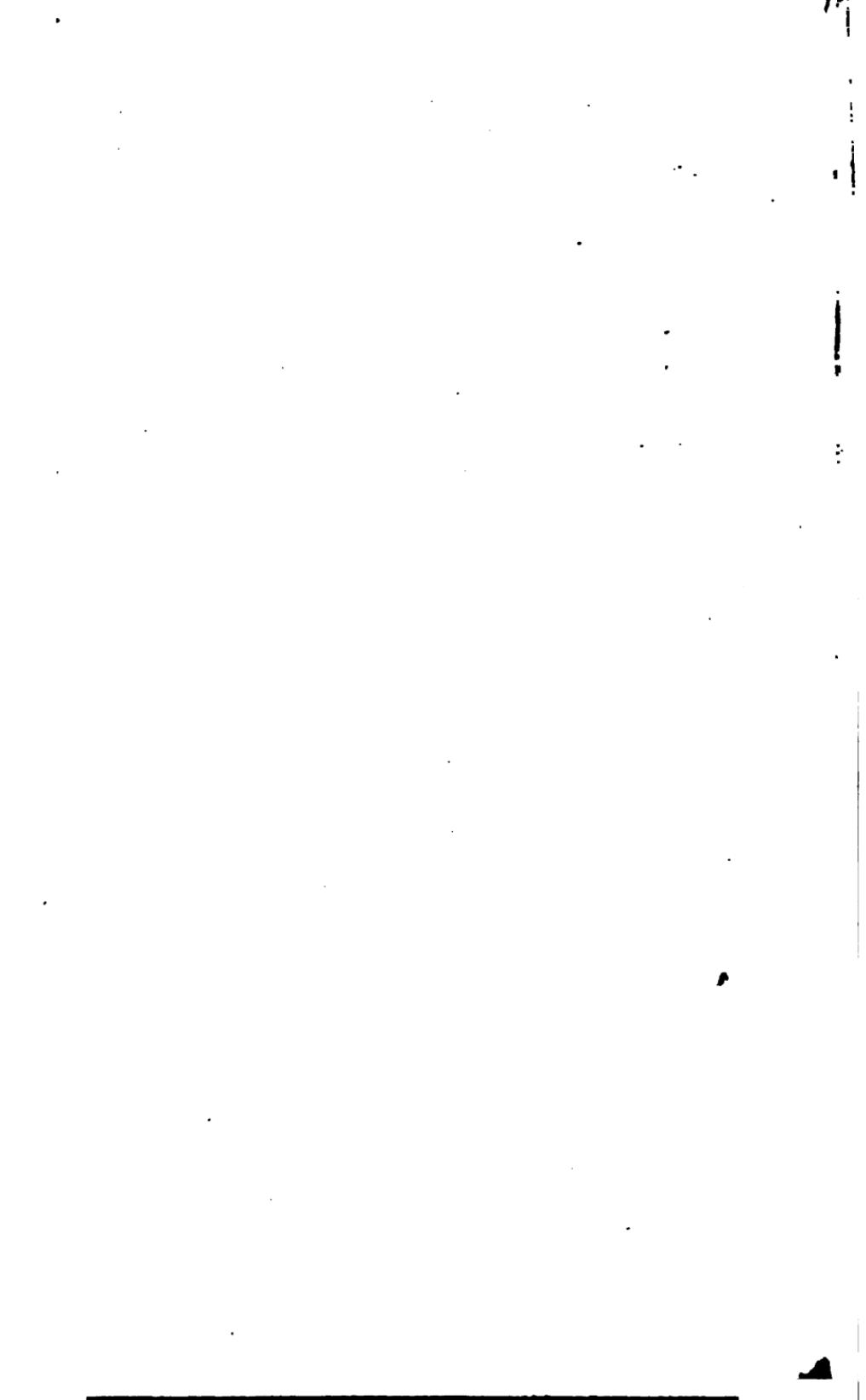
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